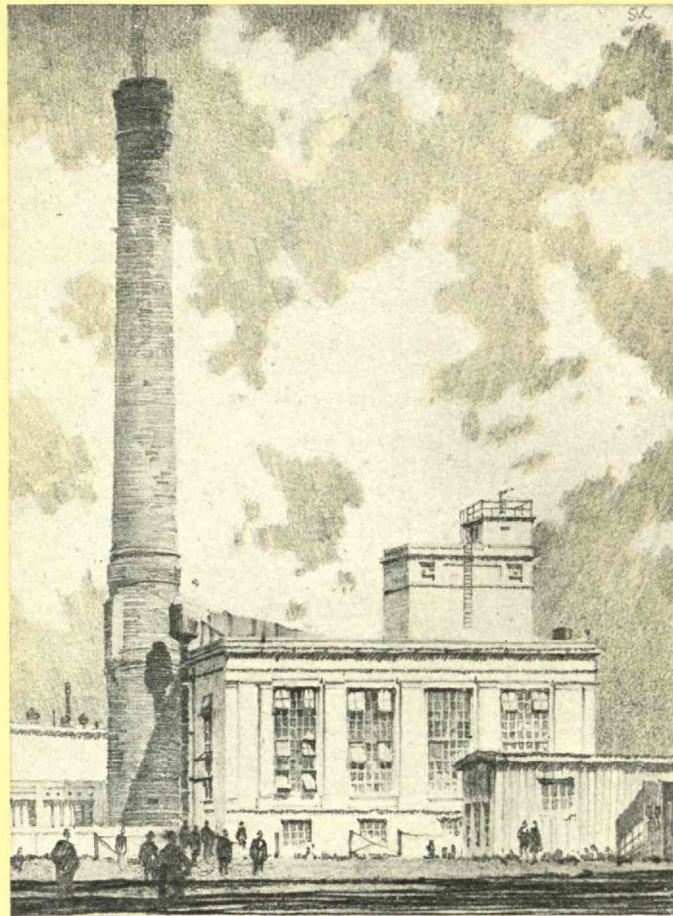


# THE TECHNOLOGY REVIEW



JANUARY  
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RELATING TO THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

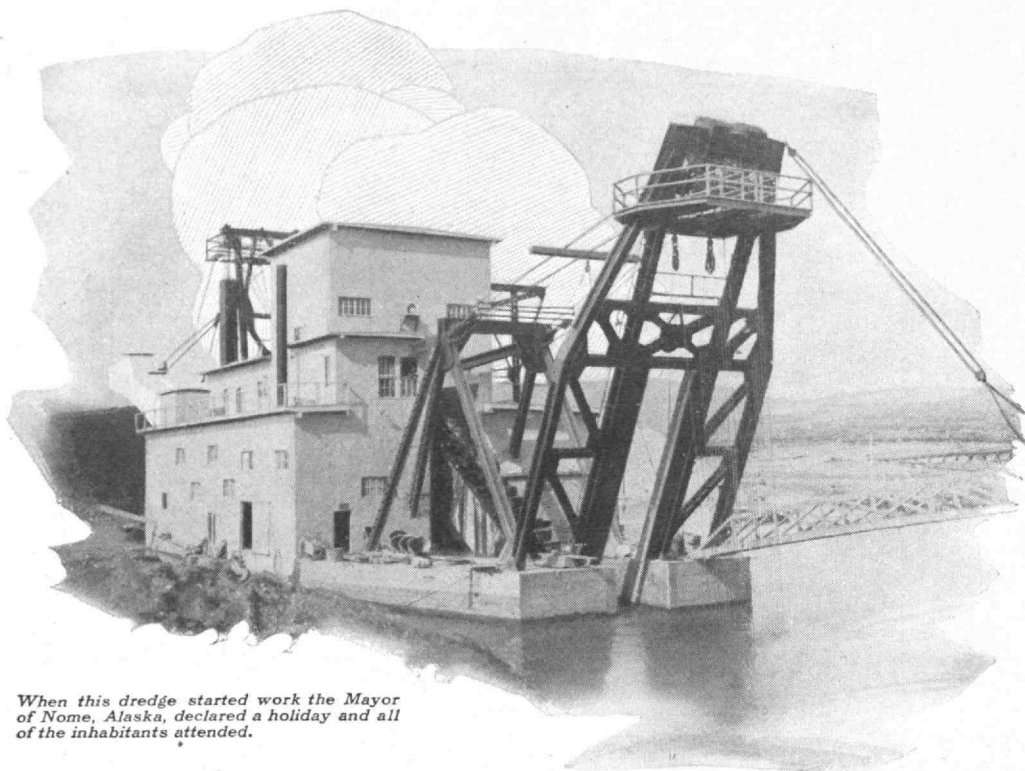


# technology review

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*When this dredge started work the Mayor of Nome, Alaska, declared a holiday and all of the inhabitants attended.*

## The "Forty-Niner" of '26



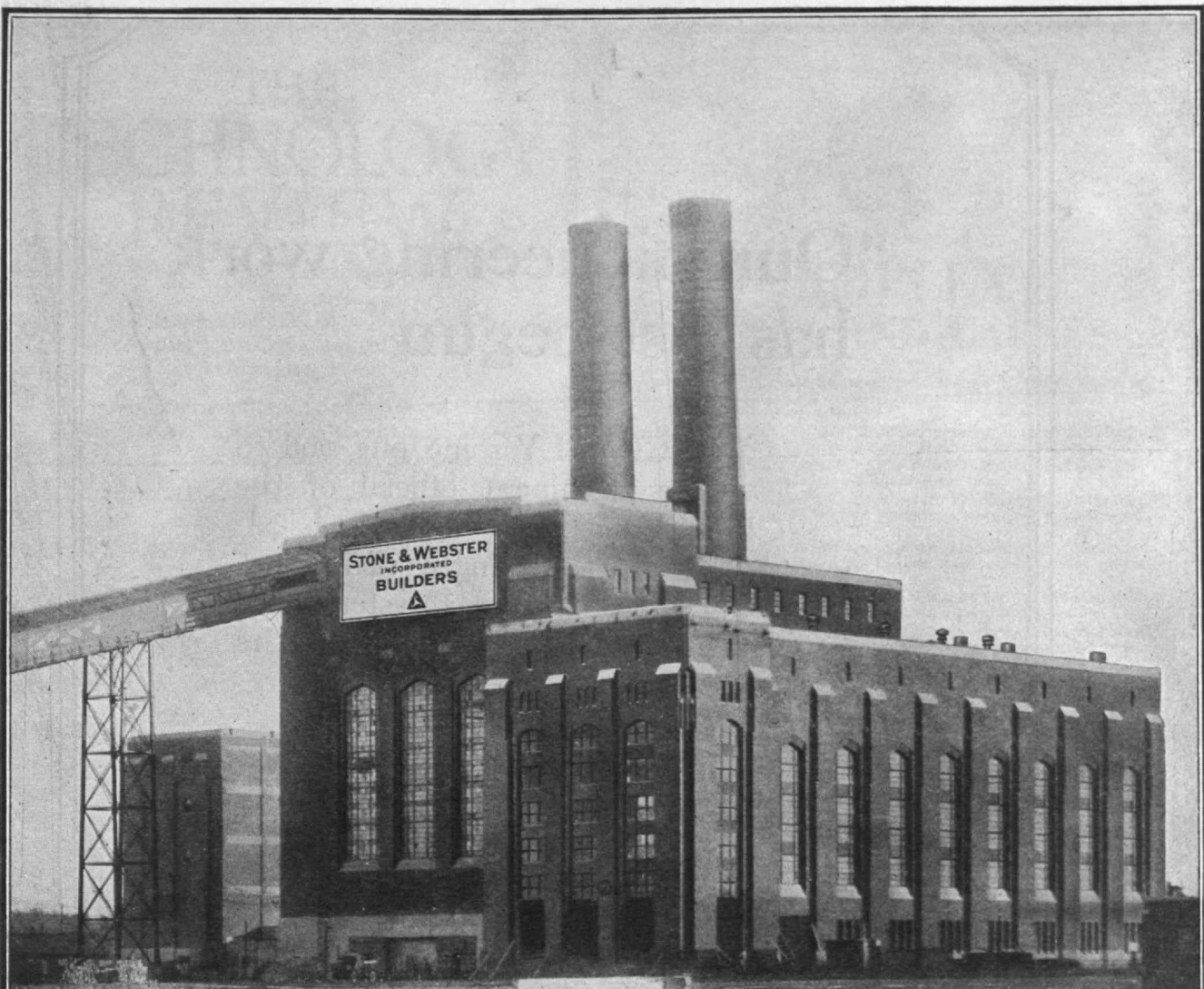
General Electric supplied all electrical equipment for two such dredges now operating at Nome. A Diesel-electric power plant, four miles distant, furnishes the energy for a total of 592 h.p. in electric motors for each dredge. To cope with winter conditions G-E cable was chosen to carry the power to the dredges.

Massive electric dredges now mine Alaskan gold. At almost incredible temperatures they dig 60 feet deep and scoop out 200,000 cubic yards a month. From the Arctic regions to the Equator, G-E equipment is called upon to perform many hard tasks once done by hand but now better done by electricity.

# GENERAL ELECTRIC

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*Published for the Communication Industry by*

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*Makers of the Nation's Telephones*

*One of a series of announcements appearing in student publications and aimed to interpret to undergraduates their present and future opportunities.*



# THE TECHNOLOGY REVIEW

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INSTITUTE OF TECHNOLOGY

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No. 3

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E. F. HODGINS, '22 . . . . .	Managing Editor
R. E. ROGERS . . . . .	Contributing Editors
J. J. ROWLANDS } . . . . .	



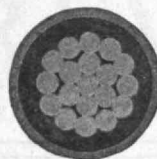
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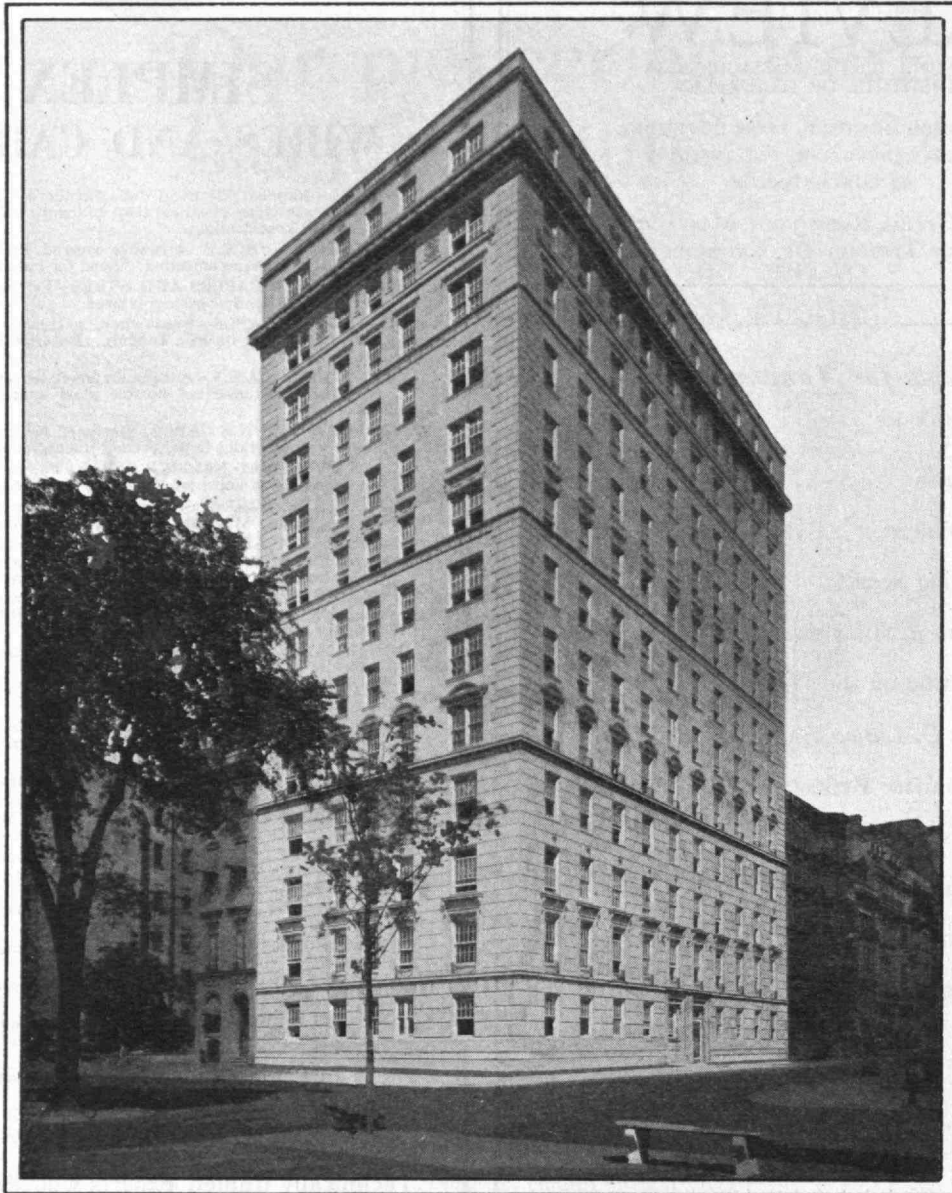
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# The TECHNOLOGY REVIEW

[ RELATING TO THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY ]

VOLUME XXVIII

\*\*\*

JANUARY, 1926

\*\*\*

NUMBER 3

## The Past Month

ALTHOUGH no subjects have yet been announced, the list of speakers for the coming Annual Dinner of the Alumni Association to be held in the great dining hall of the Boston Chamber of Commerce Building in Boston on January 9, gives ample guarantee of an evening of great interest. In addition to Dr. Stratton, two men of national prominence will figure in the evening. Dwight W. Morrow, of J. P. Morgan and Company, recently much in the public notice by reason of his chairmanship of President Coolidge's aircraft investigation board, is one. Dr. Charles H. Herty, of New York, President of the Synthetic Organic Chemical Manufacturers' Association, and a man who has stood high in the councils of the Institute's Department of Chemical Engineering, is the other. Definite announcement is at the moment impossible, for the usual reasons of state, but it is hoped that to this list will be added the presence of the Honorable Alvin T. Fuller, Governor of the Commonwealth.

Other features of the evening remain substantially as reported in the December Review. The organ of the Chamber of Commerce Building will be relied upon for the musical program and the Zizz film taken at the Reunion of last June will be presented, despite rumor and counter-rumor that it would not eventually find a place on the program.

Charles Hayden, '90, President of the Alumni Association, will preside.

HARD upon the heels of the Boston dinner comes another for the well-fed Technology man. This second one, to be

held in New York in the Waldorf-Astoria ballroom on January 19, will follow and enlarge upon the superlative precedent of the radio dinner, *ibid.*, in March 1924, and is to be known as the "Phantom Dinner."

As in 1924, the General Electric Company, the Westinghouse Electric and Manufacturing Company, and the Radio Corporation of America will combine their force, prestige and thermionic tubes to help Technology spread its tidings over half the globe, or a trifle more. The evening is planned throughout, however, on a more ambitious scale, and there is also this difference: of the evening's notable speakers, the audience will observe but a few, since science makes necessary that only a minority

be present in the flesh at the Waldorf-Astoria. New York will serve as the clearing house for every event of the evening, but Dr. Stratton, for example, may sit at home in his armchair, and talk to half the world — his voice being carried not only to remoter points, but, amplified by half a dozen loud speakers, to the audience in the Waldorf 275 miles away.

General James G. Harbord, President of the Radio Corporation, will act as master of ceremonies for the evening. From Washington it is expected that President Coolidge, Vice-President Dawes, Secretary of Commerce Hoover will speak; from Boston, President Stratton; from Schenectady, Owen D. Young. Musical and other entertainment will likewise come from afar. This year, the broadcasting companies will spurn a land wire. An even dozen of stations will co-operate in the broadcasting, but not so much as a thread will join them. In this country Boston, Springfield, Schenectady, New York,



From a wood-cut by Kenneth Reid, '18

CHARLES HAYDEN, '90

Who, as President of the Alumni Association, presides at the annual dinner of the Alumni Association this month



Canton, Washington, Pittsburgh, Chicago, Hastings, Denver and Oakland will link together. In England, the station at Chelmsford will rebroadcast the complete program.

Quite obviously, the cue for the local Technology clubs scattered throughout the country is a smoker or a dinner on the evening, at which will be received the program as presented in New York. At the larger dinners, the Radio Corporation will install the "public address system" of amplification, and at the smaller ones provide receiving sets and loud speakers.

Says the official announcement:

"The active participation of every Tech man is expected. Telegrams will be requested to be sent during the evening so that an announcement may be made as to the number of M. I. T. Alumni listening in throughout the country.

"A National Committee has been appointed to supervise the general arrangements. Local committees will have charge of the programs in the various centers where the Alumni gather. During the coming year it is expected that The Technology Clubs Associated will provide a permanent organization to direct the arrangements for future All-Technology Radio Dinners."

THE meeting of the Alumni Council held in Walker Memorial on November 30, proved to be a stimulating affair. The gathering was quadruple, being jointly of the Council, the Faculty Club and the Technology branches of the Society for the Promo-

## *"The Most Pressing Need of Technology"*

### **A Statement of Vital Importance from the President of the Alumni Association**

*AT a joint meeting of the Executive Committee of the Corporation and the Executive Committee of the Alumni Association, it was unanimously agreed that additional dormitories are the most pressing need of Technology.*

*One of the fundamental duties of a real college is adequately to house its students. The question asked by parents today when sending their boy to college is: "Where and how will he live?" With dormitories for but 300 men we are unable to answer this question satisfactorily, and as a result many good students go elsewhere.*

*Land is available in the immediate proximity of Walker Memorial for the erection of accommodations of 400 additional men, and through our power plant and Walker Memorial we can properly provide heat, light, and subsistence for such a number. These additional accommodations would wonderfully improve the situation and can be erected at a minimum expense. Plans call for 10 units of 40 men each, each unit to cost approximately \$100,000 completed.*

*In 1923 the Class of '93 contributed two units. It has been suggested that other classes would be glad to form committees and donate one or more units each. In the case of the younger classes, or of some of the older classes where the number of graduates is small, it is suggested that two classes might properly get together and donate one jointly. Each unit would bear a tablet carrying the name of the class or classes donating it.*

*Technology needs the dormitories. What will the classes do to help?*

CHARLES HAYDEN, '90  
President

December 8, 1925.

tion of Engineering Education and the American Association of University Professors. After a short business meeting of the Council, Professor Samuel C. Prescott, '94, Vice-President of the Alumni Association, turned the meeting over to Professor Harry W. Tyler, '84, President of the Faculty Club, and national Secretary of the Association of University Professors. Thereafter the evening went by strict program. William E. Wickenden, one-time Associate Professor of Electrical Engineering at the Institute and now the director of the international survey of engineering education being conducted by the S. P. E. E., delivered an address on "Technical and General Training of the European Engineer," which will be found elsewhere in this issue. Professor William Emerson, Head of the Department of Architecture, spoke on "The Importance of the Humanities in Technical Education" and James P. Munroe, '82, concluded the program with a brief note on "The Ideals of Rogers and of Walker."

More than usual interest attached to the "Salad Oration" which preceded the set program of this Council Meeting. T. C. Desmond, '09, President of the Technology Club of New York, came from the home grounds to Boston to outline a plan for the creation of a national Technology center in New York. Unlike some previous proposals, Mr. Desmond's begins with the proposition that it is not New York's place to ask the rest of the country for money to build a New York clubhouse, but that it is rather New York's place

to become so important a Technology center that a new building to house it will become an inevitable matter of course. To start the ball rolling, Mr. Desmond would immediately transfer the activities of the Secretary-Treasurer and the Alumni Office to New York, using the present Technology Club as a center. Some departments of *The Review* would follow. Meetings, probably alternate, of the Council and the Corporation Executive Committee would be held there.

For the discussion of this topic, Vice-President Prescott announced, a special meeting of the Council would be held on December 21.

**T**HERE still are a few who shudder and snort at the idea of interpreting science in lay terms, but these are fast disappearing in the face of constantly increasing interest in the non-technical public for a better understanding of things scientific. Again, as in years past, the Society of Arts has made a happy choice of subjects for the season's Popular Science Lectures.

The success of these lectures may be attributed in no small degree to this wise choice of subjects and the manner of their presentation. They add to the store of knowledge among those in professions other than engineering, and for the school boy, often puzzled in his choice of a career, it is not too much to believe that lectures which reveal the great opportunities in science and engineering often have been a deciding factor in the final decision.

The first lecture, given for students of high and secondary schools on December 11 and 12, and for the general public on the following Sunday, was delivered by Professor James R. Jack, Head of the Department of Naval Architecture and Marine Engineering, who discussed submarines, how they are designed, built, and navigated. The subject is one of which the public knows little and Professor Jack illustrated his lecture with working models, instruments and slides, explaining the development of the submersible from the time it is designed until the finished craft puts to sea for tests.

On January 15, 16, and 17, Professor Edward L. Bowles, S.M., '22, will lecture on "Recent Developments in Radio," a subject sure to draw a large audience from the ranks of its enthusiasts.

"Small Beginnings in Science and Their Epoch-Making Consequences" will be Professor William S. Franklin's subject on February 12, 13, and 14, and Professor Samuel C. Prescott, '94, will discuss "The World's Food Supply: Its Sources and Preservation" on March 12, 13, and 14. Two lectures on each subject are given entirely for students from high schools and secondary schools from various sections of New England. The general public is admitted to the third.

**S**IX hours after the signing of the Locarno Treaty and collateral pacts in the Victorian reception room of the Foreign Office in London on December 2 the members of the Faculty Club at luncheon in Walker Memorial listened to some first-hand information about the European situation from Dr. James Clerk Maxwell Garnett, C.B.E., one-time Principal and Dean of the faculty of the College of Technology in the

University of Manchester. Dr. Garnett, who is at present executive secretary of the League of Nations Union in Great Britain with over 2000 branches and a membership of nearly a half a million, spoke concisely, cogently, to the point. He expressed confidence in the coming of a warless world, urged as preparation for it need of repentance, sense of world citizenship, widened patriotism, faith.

"The great lesson of the Sixth Assembly," said he, "is that the League has come to stay and, now that Germany has been added, will go on successfully in the future. It is no longer possible to manage human affairs with independent sovereign governments. For nearly 100 years before the war there were thirty-three public organizations through which the governments were able to do those things which, had they been acting independently, they could not have accomplished. It is a fact that the League has grown more out of its positive work of organizing peace than out of its negative work in preventing war. . . . Where only three per cent of the countries of Europe were formerly linked up with the gold standard, seventy per cent are linked up now. It means that the financial reconstruction of Europe is well on its way. . . ."

"Both Locarno and Geneva show that an enlightened public opinion is necessary even for treaty-making purposes. The truth is that any great rapid change in human institutions can only be effected by a two-fold process. You have to effect an external change in the rules and laws of society, and an internal change in the



THOMAS C. DESMOND, '09

© Ira Hill

*President of the Technology Club of New York, and proposer, at the special meeting of the Alumni Council held on December 21, of a plan to create a national Technology headquarters in New York City*



minds of men. If you make an external change only, whether to get rid of alcoholic liquors or to abolish war, you are in danger of getting laws that cannot be enforced and treaties that are only scraps of paper."

**M**EMBERS of the Women's Association of Technology paid tribute to the memory of Ellen H. Richards, '73, first woman graduate of the Institute, and for many years an instructor in sanitary chemistry, who died in 1911.

The meeting was held on Mrs. Richards' birthday, December 4, and several of her students as well as members of the Faculty spoke of her work in the years in which she won for herself far-reaching fame.

Miss Eleanor Manning, '06, President of the Technology Women's Association, introduced Miss Frances Stern, '13, who as presiding officer announced that plans for erecting a tablet to the memory of Mrs. Richards are under consideration. The tablet will probably be dedicated on Mrs. Richards' birthday next year.

Professor Samuel C. Prescott, '94, Head of the Department of Biology and Public Health, told members of the association of Mrs. Richards' work. He said she was one of the most wonderful women America has produced, and a scientist who inspired men and women to great achievements.

**F**RANK A. SCOTT, President of the Warner & Swasey Company, Aldred lecturer at the Institute on November 16, gave an enlightening answer to one of the most interesting of all questions asked by engineering students—"Has the Average Engineer an Opportunity?" His answer was emphatically in the affirmative, but he warned the men who listened that the engineer of today must be willing to work. He advised the seniors to do the job that is before them and to do it at once.

**B**ECAUSE of the recent shower of meteorites in New England a series of four lectures on the distribution, composition, and origin, as well as the mineralogy and structure of meteorites, by Dr. George P. Merrill, Curator of the United States National Museum, was most timely. The lectures were given on December 8, 9, 10, and 11, under the auspices of the Department of Mining, Metallurgy and Geology.

Dr. Merrill is a graduate of the University of Maine, from which he holds also a master's and a doctor's degree. He is a member of the Geological Society of America.

**W**ILLIAM HENRY LINCOLN, a life member of the Corporation since 1895, former Boston shipping merchant and a director in numerous financial institutions, died at his home in Brookline on December 4.

Mr. Lincoln entered his father's shipping firm after graduating from the Chauncey Hall School and eventually became a partner in the organization. He was President of the Boston Chamber of Commerce for four years and President of the New England Ship Owners' Association.

During the thirty years from the time of his election as a life member of the Corporation until a short time before his death he took an active interest in affairs of the Institute. He was also a trustee of the Episcopal Theological School in Cambridge and of Wellesley College.

**M**AJOR-GENERAL Harry L. Rogers, '89, from 1916 until July, 1918, Quartermaster-General of the American Expeditionary Forces in France and then Quartermaster-General of the United States Army, died in New York, December 12, after a long illness.

He was appointed from civil life May 2, 1898, as a major and paymaster during the Spanish-American War by President McKinley. He was promoted to be a lieutenant-colonel in 1907 and to assistant paymaster-general, with the rank of colonel, two years later. His promotion to Quartermaster-General during the World War by President Wilson caused much surprise and was not confirmed until after some delay in the Senate.

General Rogers served under Funston in the Vera Cruz expedition into Mexico in April, 1914, being in charge of supplies. Pershing took him in a similar capacity with the punitive expedition after Villa in 1916 and the following year to France.

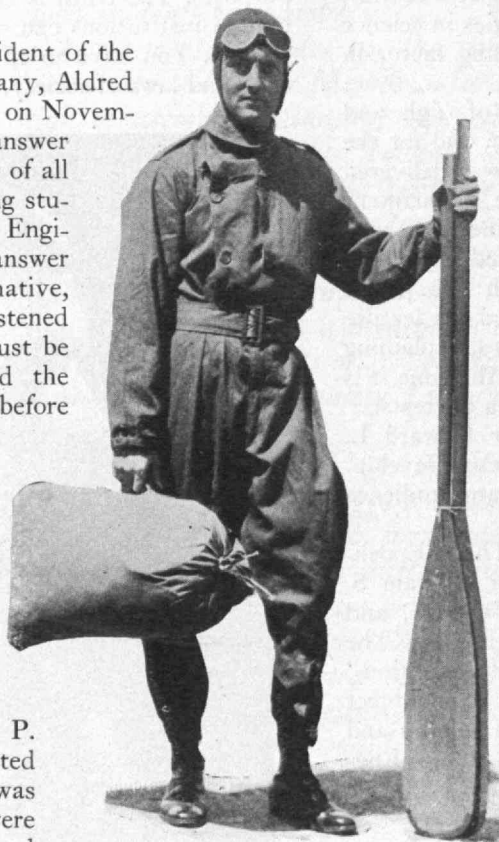
His early military training was received in the Michigan Military Academy from which he was graduated in 1884. He entered the Institute one year later.

In addition to his service in Mexico and with the A. E. F. he saw military duty in Porto Rico in 1898 and in the Philippines in 1910.

**"W**HY doesn't Technology get more publicity?" asked H. H. Young, '91, at the 93d meeting of the Alumni Council three years ago last month. There being no ready answer his question precipitated a near riot. Nine other members tried to speak

at once and the net result was that the 94th meeting heard advice on the problem from a Harvard man.

In December, 1925, an editorial writer in *The Tech*



LIEUT.-COM. RICHARD BYRD

*The commander of the planes with the MacMillan polar expedition of last summer was a speaker at a Faculty Club meeting on December 21*

resurrected the subject. He did not seek information; he demanded blood. Blood flowed — his own — for in this case there was a ready answer.

Wrote a communicant in part, "Your manner of expression was unexceptionable but your author seems to be like many other estimable editorial writers who do their best writing when unhampered by the facts of the case which they so piously view with alarm.

"For many months the Institute had no press bureau until Mr. J. J. Rowlands, who is listed in the current Directory of Officers as responsible for the 'News Service,' came to Technology on February 20, 1925. Between March 1, 1925 and November 30, 1925, an interval of nine months, the press cutting services furnished to the Institute 6,856 newspaper and magazine clippings in which Technology's name was mentioned. There were probably many that were overlooked. . . .

"Of those actually received over 2,000 odd were directly traceable to stories released by the 'News Service.' These totaled 8,100 column inches of reading matter exclusive of headlines. Eighty-one hundred column inches represent the equivalent of 385 columns or 48 pages of unbroken text in a newspaper like the *New York Times*. They are slightly more than the equivalent of over 101 pages of solid reading matter the size of *The Tech*. . . .

"One story alone, that about the 'Chemical Ocean' used in the laboratories of the Department of Electrical Engineering to simulate several thousand miles of ocean cable in a glass container less than two feet square, appeared (according to clippings actually received) in 110 newspapers in the United States and in 8 abroad. . . .

"Photos of the rotor ship, designed by Lieuts. Hastings and Kiernan of the Department of Naval Architecture, put out by the 'News Service,' appeared to our knowledge in 103 newspapers and magazines varying in display from a half page in the rotogravure section of the *New York Times* downward. . . ."

With his customary urbanity the editor of *The Tech* titled the communication "Statistics Tell No Lies!" and gave it a prominent position in the first issue after receipt.

THE aroma of steaming coffee surcharged with the scent of boiling hot dogs, sandwiches and other edibles now floats up from the basement of Ware Hall, where the Dormitory Board, harkening to the lamentations of students who run on a schedule of five

meals a day, has established a nocturnal lunch counter.

This lunch counter will be operated as part of the Walker Memorial dining service and is welcomed by students who in the past have been driven by hunger to seek the nearest source of food, which at night is some distance from the dormitories.

A dietitian concerned with the gastronomic peace of men about to compose themselves for sleep would weep over the menu, which, it appears, was the popular choice of those vitally concerned. Hot dogs, ham and cheese sandwiches are headliners on the bill of fare, with ice cream, doughnuts and apple pie for ante-mortem variety in desserts, and coffee and milk for beverages. It is assumed that bicarbonate of soda will be served as a post-prandial side-dish with all frankfurter orders.

Norman Estes, '28, will preside behind the counter nightly except Saturday and Sunday between 10 p.m. and half an hour before the midnight hour. P. L. Mahoney, '26, has been

appointed resident custodian of complaints, with broad powers to pass upon the size of holes in doughnuts, the thickness of the betwixt section of sandwiches and the temperature of beverages.

The lunch counter was established for the convenience of the students and to give added opportunity for good fellowship. For this and sanitary reasons the men must feast at the counter. While the lunch will not be operated for profit, it is expected to pay the expenses of service, including the salary of a Pied Piper to deal with any mice that may be attracted to the scene. The apple will be iced!

NO one who visited the New England Aviation Show, which opened in Boston on December 2, could escape the noteworthy fact that Technology men hold leading rank in American aviation, nor is it immodest to claim for the men of the Institute a great deal of credit for the progress in design and construction in airplanes in recent years.



PROFESSOR MAX BORN

*The distinguished physicist from the University of Göttingen who is now delivering a series of thirty lectures at the Institute. His lectures are divided into two series: The Lattice Theory of Rigid Bodies and The Structure of the Atom and are to appear in book form*



It was Donald W. Douglas, '14, who designed the big cruisers for the World Flight. B. J. Connell, S.M., '25, was navigating officer on the San Francisco-Hawaiian flight. His account of that flight appeared in The Review for November. Also the December Review chronicled the triumph of Lieutenant James H. Doolittle, S.M., '24, who won the Schneider Cup Race at Baltimore. Again it was Technology men who led in making the first Air Show in Boston in fifteen years a success.

Godfrey L. Cabot, '81, President of the National Aeronautic Association, was honorary chairman of the show committee. Lieutenant-Commander Porter H. Adams, '14, his assistant in the association, and Professor Edward P. Warner, S.M., '17, the association's governor for Massachusetts, and Head of the Institute's course in Aeronautical Engineering, were members of the committee in charge of the exposition.

One of the most interesting exhibits was that of the Aeronautical Engineering Society of Technology, which staged some of the phenomena of flight. One experiment showed why a plane spins, and was carried out with the aid of a free air blast on miniature planes.

Model planes used in wind tunnel tests to determine the strength and performance of planes before they are built, and costing from \$500 to \$1000 each, were on exhibition and attracted much attention. Franklin T. Kurt, '27, President of the Society, was in charge of the exhibit and also served on the committee in charge of the show.

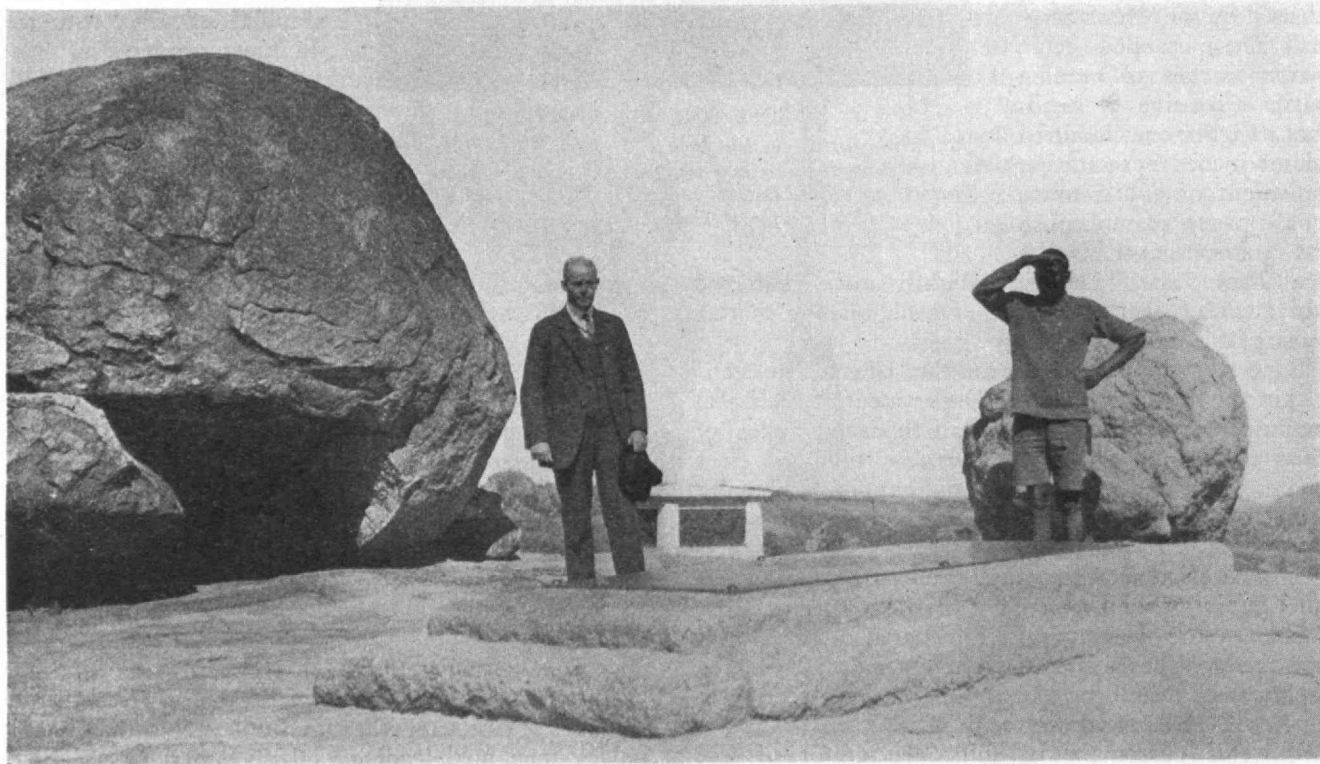
THE recent annual meeting of the American Public Health Association in St. Louis resolved itself into a miniature Technology reunion, for among those who attended were nearly three score Technology men of whom the majority were graduates of the Department of Biology and Public Health.

Professor Samuel C. Prescott, '94, Head of the Department, and Clair E. Turner, '17, Associate Professor of Biology and Public Health, were there, and Professor C.-E. A. Winslow, '98, now of the Yale Medical School, was elected President of the Association. Homer N. Calver, '14, was elected General Secretary, while numerous Technology men were appointed chairmen of committees.

One of the most pleasant features of the meeting was a Technology breakfast where questions of public health were laid aside for the moment for talk of the Institute. The group sent a telegram of good wishes to Mrs. William T. Sedgwick, widow of the late Professor Sedgwick.

PIERRE DU PONT, '90, already director in two of the greatest industrial corporations in the country, General Motors and the E. I. du Pont de Nemours, has recently undertaken the new responsibility of public service as Tax Commissioner of the State of Delaware.

For many years he has been a student of taxation and he will now have a laboratory in which to put his theories to the tests of actual practice. Taxation in Delaware, as elsewhere, is closely related to educational problems, a field in which Mr. du Pont's concern is



#### IN DARKEST AFRICA

*Professor W. Spencer Hutchinson, '92, who is on leave of absence in Africa, where he is visiting mining properties.\*The photograph shows him at the grave of Cecil Rhodes at World's View, Rhodesia. In the background may be seen the Allan Wilson memorial*

shown by the fact that he has provided several million dollars for the erection of new public schools in that somewhat leisurely intellectual state.

The salary attached to his new office is \$4,000 a year, and it is, therefore, unnecessary to record that financial gain was not the motive for accepting the office, for the assets of General Motors increased by more than \$300,000,000 during his brief leadership of the company.

Should Mr. du Pont rejuvenate the tax situation in Delaware it is interesting to recall that he has in other works demonstrated a faculty for making his reforms stick. He was a member of the State Board of Education for two years during which time he was the backbone and the sinew of the organization. The stimulus and system he imparted to it are still apparent.

Everyone in Delaware is supposed upon reaching his majority to pay a so-called filing fee of \$3 a year on his state income tax. There are about 130,000 persons subject to the fee, yet last year only 56,000 paid it. There are also in round numbers 19,000 residents of Delaware who pay a Federal income tax, but less than 10,000 last year paid the state income tax, the exemption provision of which is less than that of the Federal.

The new commissioner is expected to make the list of state taxpayers coincide more nearly with the Federal list and will likely take pains to increase the number of those who pay the filing fee, receipts from which go for the support of the public schools.

ANYONE who has any remaining doubt as to the telekinesis, ectoplasm or other exoteric communications and manifestations observed during the recent investigations of "Margery," Mrs. L. R. Crandon, wife of a Boston surgeon, should read an article in the November issue of *The Atlantic Monthly* by Hudson Hoagland, graduate of the School of Chemical Engineering Practice at Technology in 1924. Since that time he has undertaken graduate study at Harvard in psychology.

Having tried out unsuccessfully for the \$2,500 prize of the *Scientific American* for "proof of spooks," and having quarreled with Harry Houdini who, on what seemed to many to be adequate ground, had charged her with deliberate and conscious fraud, "Margery" was invited to perform for a committee of experts at Harvard. Among Mr. Houdini's co-judges on the first investigation were Dr. William MacDougall, Professor of Psychology at Harvard, and Dr. Daniel F. Comstock, '04, for fourteen years, until 1918, a member of the staff of the Department of Physics at the Institute. These two did not go so far as Houdini but "found the evidence scientifically inadequate," Professor MacDougall adding that in his opinion "there had been much to indicate normal production." The verdict of the committee after some ninety sittings was rendered as "supernormality not proved."

The Harvard tests, described by Mr. Hoagland, were made under rigorous scientific conditions, this committee including Dr. MacDougall, Dr. Howard Shapley, Mr. Hoagland and others. On the occasion of at least one of its meetings Dr. Edwin B. Wilson, quondam Head of the Department of Physics at Technology, attended. The arrangements were quite elaborate. *Time* says,

"Margery" was made to disrobe under the eagle eye of a trained nurse. She put on an examined dressing gown and slippers, decorated her face, wrists and ankles with luminous paint, and placed her hands in those of an observer in the darkened room. An electric current was passed through the bodies of all the observers so that if anyone broke his neighbor's grip, a bell would ring. Despite these and other 'laboratory test' conditions, 'Margery' was able to summon 'Walter' (her brother, killed in an accident), who whistled, cracked jokes, pulled the professors by their forelocks, [one at least was bald], bantered them, played checkers with (and beat) one of them, lifted weights (a corresponding increase in 'Margery's' weight being observed when he did so), rang a bell — and disappeared when the lights went up. During his 'presence,' the observers beheld strange luminosities about the medium and a translucent material shape, like an arm, cold and clammy (said one) 'as an eel's heel,' was seen, measured (against a radium-painted board) and felt. Warned that violence to this 'emanation' would seriously injure the entranced medium, none of those present employed the obvious investigatory strategem of seizing the ghostly arm and calling for lights."

Though Mr. Hoagland's conclusions are somewhat veiled and he is evidently reluctant to hurt the feelings of Mrs. Crandon, who to her credit since the beginning of her mediumship has never been known to receive any material reward for her powers, he leaves no doubt that "Margery's" own hands and feet explain most of what was seen.

DR. CHARLES G. ABBOT, '94, Director of the Astrophysical Observatory of the Smithsonian Institution, has arrived in Africa at the head of a National Geographic Society expedition, which will seek the location for a station to measure the heat of the sun's rays and thereby, perchance, obtain data upon which to forecast weather conditions weeks, even months, ahead.

The object of the expedition is another manifestation of the growing demand for more accurate knowledge of the cosmic forces. The success of farmers and of industry in many forms is gauged to an amazing degree by weather conditions. And Professor Edward P. Warner, S. M., '17, in an article in the November issue of *The Review* called attention to the great importance of meteorological knowledge in aviation.

The chief object of the expedition is to find a spot where it will be possible to make unhampered daily measurements of the heat of the sun, and the National Geographic Society has donated \$55,000 to make it possible for the Smithsonian Institution to carry out the research.

"At present," the announcement of the Society said, "weather bureaus base their forecasts of rain or shine, heat or cold, on temperatures and air pressures existing at various places on the earth's surface. But such forecasts are only roughly accurate and at best they do not look ahead more than a few days.

"The school of scientists of which Dr. Abbot is the acknowledged leader asserts that in considering temperatures and air pressures, we are dealing merely with effects, and that if we search out the causes instead and



grow to understand them, we can prophesy weather changes much more accurately and much farther ahead.

"The primary cause of earthly weather, according to this school of scientists, is the sun, and they believe changes in the weather are primarily due to changes from day to day in the amount of heat given off by the sun.

"The theory that the solar constant of radiation is not a constant but a variable is comparatively new, yet it already has received considerable verification. It was originated at the end of the last century by Samuel P. Langley, Secretary of the Smithsonian Institution, who also fathered American aviation.

"Secretary Langley, aided by Dr. Abbot, began measurements of solar radiation in 1902 at Washington and on Mount Wilson, California. In 1918 the Smithsonian Institution established another station in the nitrate desert of Chili, and in 1920 a third was set up on Mount Harqua Hala in Arizona, which took over the work previously done at Mount Wilson.

"As a result of the measurements made at these stations, it seems certain that the quantity of heat sent out by the sun increases or decreases as much as five per cent in ten days, though usually more slowly.

"The records indicate that these changes in the sun's heat have a direct and perceptible influence upon the weather. The forecasting of that influence has been developed to such a point that the Weather Bureau of the Argentine Government makes daily use of the measurements of the Smithsonian's solar radiation station in Chili in its forecasts.

"The expectation is that the new station will be ready for work by next spring. Dr. Abbot will choose the most propitious site, on which he will arrange for the installation of the complicated and sensitive instruments which he has been largely instrumental in developing during his thirty years' study of the sun."

THE day when it was more economical to leave street lights burning than to have a man make the rounds to turn them out at the crack of dawn is past," F. H. Daniels, '11, Vice-President of the Sanford-Riley Stoker Company, declared in an address before the Affiliated Technical Societies of Boston in a two-

day conference about fuel and power on December 10.

"Today," Mr. Daniels said, "the supply of natural gas is practically exhausted." Of oil, he declared that at the present rate of consumption there is enough to last about twelve years, although the rate has been increasing steadily in recent years. The world's supply of oil amounts to 40,000,000,000 barrels, while last year the United States burned 800,000,000 barrels, and has already used 6,500,000,000 barrels, or forty-two per cent of its original supply. After the present supply is exhausted there are the oil bearing shales to fall back on, he added.

That the tired business man will shovel coal into the maw of the family furnace for many years to come seems certain from what Mr. Daniels said about that source of fuel.

There are still 1510 billion tons of bituminous coal in the country, only one per cent of our original supply having been used. As for anthracite, only fifteen per cent of the total resources of seventeen billion tons has been consumed.

Fuel oil, Mr. Daniels said, will never again compete with coal for steam production except in rare cases.

TECHNOLOGY'S march into the land or promise west of Massachusetts Avenue has begun. The actual event is inconspicuous, to be sure, but it is a tangible beginning of the long expected development of the property that still awaits new buildings.

Major Albert S. Smith, Superintendent of Buildings and Power, began in mid-December upon the work of linking together the old and the new sites by a set of cable ducts laid across Massachusetts Avenue opposite the side entrance numbered 69. From one manhole to another, 250 feet apart, ducts are being laid to contain all the necessary cables for electric connection to the site which will some day make a greater Technology. Telephone, power, direct current, and high tension wires will soon bridge the gap of Massachusetts Avenue to supply the need of buildings which are still unborn dreams in the brain of some architect.

Stimulated either by the Major's activities or by a New Year's good resolution the city authorities have undertaken to cover the duct by better pavement.



HIS ROYAL HIGHNESS

Howard M. Edmunds, '05, inventor of the "Cameograph," a process of mechanical photo-sculpture, is responsible for the above carved image of the Prince of Wales. The photograph below indicates how, by a series of projected horizontal lines, the contours of the physiognomy are indicated as a basis for the cutting machine

TECHNOLOGY is well represented on the Massachusetts Committee chosen to judge the essays in the third prize contest of the American Chemical Society.

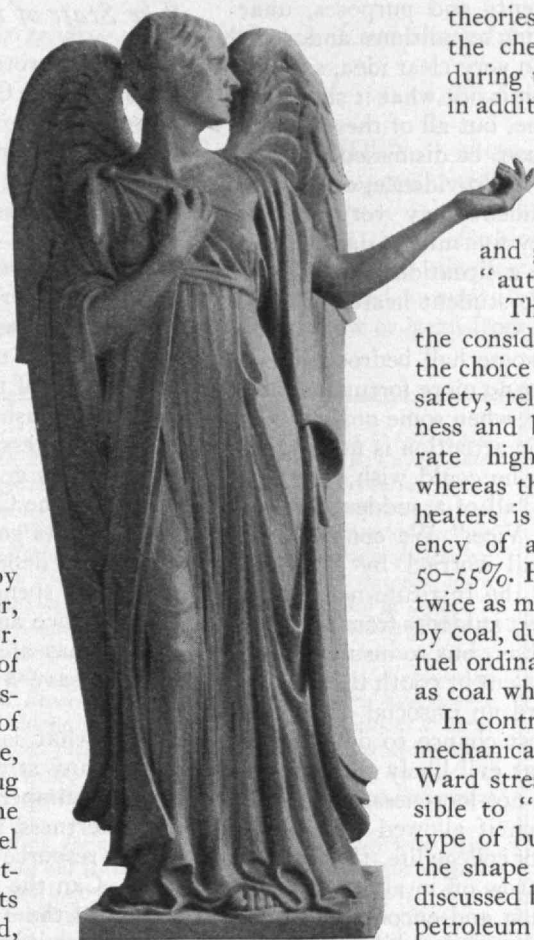
Six scholarships to Yale, Vassar and other institutions with tuition fees and a sum of \$500 for four years will be awarded in the national contest for the best essays on various topics in chemistry. The contest is open to high and secondary school students throughout the country.

Franklin W. Hobbs, '89, Life Member of the Corporation, is chairman of the sub-committee of industrialists to which Salmon W. Wilder, '91, also a member of the Corporation, was appointed.

The chemists are represented by Harvey J. Skinner, '99, of Skinner, Sherman and Esselen, Inc., and Dr. Allan Winter Rowe, '01, Director of Research of the Evans Memorial Hospital, appointed to the committee of pharmacologists. Herman C. Lythgoe, '96, Director of the Food and Drug Division of Massachusetts is on the committee of public men; Colonel Frederick W. Phisterer of the Department of Military Science, represents the military, and Miss Alice S. Blood, '03, Director of the School of Household Economics at Simmons College is on the committee representing women.

GAS and oil fuel for domestic heating must be classed as luxury fuels, although both may be used more efficiently than coal, John T. Ward, Assistant Professor of Chemical Engineering in the new Gas and Fuel Engineering course, told members of the Rochester section of the American Chemical Society in an address given some weeks ago.

Speaking on the subject of "Oil and Gas as Domestic Fuels," Professor Ward discussed and illustrated the



THESIS

*Winged Figure by Darragh de Lancey, '90, submitted by him as a thesis for graduation from the Yale School of Fine Arts, last June*

theories now held as best explaining the chemical processes which occur during the combustion of fuel oil and in addition showed by means of slides, the more important types of domestic oil burners. He said that the increasing use of oil and gas was due to the desire for "automatic clean heat."

The point was emphasized that the considerations which should govern the choice of an oil burner were in order, safety, reliability, convenience, cleanliness and burner cost. Gas fired boilers rate highest in efficiency, 80-85%, whereas the usual maximum for oil fired heaters is 70% and the average efficiency of an anthracite fired heater is 50-55%. He stated that it usually costs twice as much to heat a house by gas as by coal, due principally to gas rates. Oil fuel ordinarily costs half again as much as coal when used in the same heater.

In contrasting the gravity feed to the mechanical type of oil burner, Professor Ward stressed the fact that it was possible to "build in" to the mechanical type of burner safety and efficiency in the shape of a correct air-oil ratio. He discussed briefly the prospects for future petroleum production and used the data of the American Petroleum Institute to refute the rather prevalent impression that practical exhaustion of our petroleum supply could be predicted to occur within the next decade.

IN the *Salle des Glaces* at Versailles war has been declared on a minute parasite, a fungus growth that is destroying the woodwork of the palace. John D. Rockefeller, Jr., contributed 10,000,000 francs to carry on the war, and Welles Bosworth, '89, who designed the present Institute buildings, was chosen as master exterminator of this wood-working bug. Now the task of restoration is in progress.

## Editorial Comment

### Dormitories

The statement of President Charles Hayden, '90, reprinted on another page, that "the most pressing need of Technology" at the present time is an adequate dormitory system, cannot fail to elicit a full-throated cheer from the many Technology Alumni who have been waiting eagerly for some opening gun in a campaign to build up at the Institute a true geographical community worthy to represent the community of interest and of spirit which now exists.

President Hayden's statement came as the result of a joint meeting, previously announced, between the Executive Committees of the Corporation and the

Alumni Association. It was there decided that however desirable a new gymnasium might be, however much an adequate auditorium was to be hoped for, the first and the greatest present material need of the Institute was dormitories. Based upon that decision we may now confidently expect the inauguration of a vigorous action.

It is hardly necessary to labor over proof that the Institute stands in crying need of more extensive housing facilities. Our present dormitory quarters will house barely ten per cent of the student body. Fraternities care for twenty-five per cent more. The remaining sixty-



five per cent are, to all intents and purposes, unaccounted for. What their living conditions and social existences may be, we have no very clear idea, save the certain one that their situation is not what it should be. A certain number live at home, but all of these cannot, for this seemingly simple reason, be dismissed from the reckoning. The home may be in Providence, or Worcester, or Nashua, and the student may very well be forced to travel fifty to seventy-five miles a day between it and the Institute. Here is a situation which is certainly not conducive either to student health or Institute spirit.

The student who lives in some hall bedroom in the Back Bay is in a different, but no more fortunate situation. Now and then, of course, when some noisy publicity seeker feels that the public attention is not focused upon him with the exactness he could wish, one finds much newspaper space given, all of a sudden, to some such subject as "Back Bay Vice." We confess quite openly that we are not at all worried by any such spectre as this. To our mind, the Institute needs additional dormitories not to protect students from the putative immorality of the Back Bay, but to insure that no tendency (so much more prevalent in youth than we can imagine or remember), toward an unsocial or solitary attitude, be given the slightest chance to develop. To our way of thinking, the great evil likely to harm the young Technology student is not looseness, but simple loneliness — a condition which if allowed to progress unchecked in the early days of college life, the individual can seldom completely throw off in all his remaining years. It is for the fostering and encouragement of friendships, for the development of the ability of young men to associate with their fellows with ease and familiarity, that Technology most needs to develop a community life.

Technology must be self-contained. Within the boundaries of her territory, wide enough now for the furthest-flung imagining, she must evolve, if she is to live out her ambitions, a complete community independent in itself. East and west, her neighbors are the factories; north and south they are a railroad and a river. Without the most careful cultivation, there can grow to the best advantage in these surroundings neither a mind, a body, nor a spirit.

Dollars cannot be spent to better advantage than in the creation of a means to more "humanity" at the Institute. Not many days ago, Cornell dedicated the splendid memorial of a new student union to Willard Straight, who left his millions "to make Cornell a more human place." The plan of President Hayden to do similarly by Technology, through the means of arousing the alumni classes to a realization of their duty to see that Institute living conditions are immediately bettered, bids fair to be the most important forward step which has been taken since the war.

Fortunately, President Hayden is fully accustomed to see the plans which he imagines body themselves forth in most complete reality. Dormitory accommodations for 400 additional men by 1927 are thus to be looked for with the most reassuring confidence. But the Alumni must help, and help to the utmost.

### *The State of the Council*

With the words of the Review's criticism of the recent sterility of the Council meeting programs barely spoken, those in charge of affairs saw to it that the program of the November meeting was one of as much interest and stimulation as anything that recent years have afforded. Any possible criticism of program was excellently answered.

But the November meeting, interesting as it was, nevertheless served to make painfully evident another hard fact: if the personnel of the Council has not been of the quality to revolt at the tedium of recent years, neither is it of the quality to respond in a healthy and heartening fashion to a truly exciting stimulus. The papers of Messrs. Wickenden, Emerson, and Munroe furnished as good an opportunity for interesting discussion as the Council is likely to have for a long while, but it let its golden chance slide by with no effort at question or debate. It can hardly be encouraging to any speaker to spend long hours of thought and care upon his utterance and then to find on a call for discussion, that he has aroused in the minds of his audience no emotion save a vague wonder what time it is getting to be.

Just what is the matter with us at Technology? Almost any street-corner crowd, attracted by a political tub-thumper, can be counted on to show more spirit, more alertness, more dash and spontaneity and genuine mental resource than an audience composed of our own selves. Can the Council of the moment be a true cross-section of the Technology Alumni that it neither complains when it is bored nor responds when it is interested?

We are not willing to accept that suggestion. To us it seems that the happiest explanation must lie in the fact that the personnel of the Council is not at the present time what it should be. For one thing, the Council is too large. For another, continued absence is tolerated without the suggestion that the member show an interest in his job or resign it. Membership should be a duty, rather than an honor. There should be nothing of the sinecure about it. The member who attends meetings and contributes nothing save an occasional second to the motion may not be doing the Council much good, but the Council has a chance to do the good to him, if the rest of the body can keep itself sufficiently up to scratch. But the man who accepts membership and then promptly forgets his obligations, so far from benefiting the Council actually harms it, and gains no good for himself. Yet out of a membership of 158 the records indicate that the average attendance at the last six meetings has been but fifty. Here is a situation that calls for immediate remedy.

There can be no question but that if the Executive Committee were to take immediate steps to improve Council personnel, enforcing penalty for absence, weeding out the uninterested members, and in future giving greater care to the selection of new members, the situation would markedly improve. Perhaps, after all, the present Council should not be chided for inaction. It may be possible that it has been performing to the limit of its capabilities, which are too small for the job.

# The Engineering Scene

*A critical glance at technical education in Europe and how we may profit by it*

THE American and Canadian engineering colleges — 120 strong — are now engaged in a large scale study aiming at readjustments of organization and practice which will make them more efficient factors in our educational and economic life. It was my privilege to spend eight months in Europe as their representative. One begins such a mission by expecting to find some things done better, which we may borrow or imitate to our profit. He ends by finding the possibilities of direct borrowing to be very scant indeed. The fundamental conditions are different. Educational systems are organisms, not machines. They are evolved rather than assembled by deliberate design. They cannot be disassociated from the economic and cultural environment in which they have developed. They cannot be taken apart and transplanted piecemeal.

## I

The first thing that an observer discovers is that his task goes beyond the mechanics of plant and curriculum, the details of teaching and examination, important as they are, to the broader problem of technical education as a factor in the economic programs of the several nations. The value of such a study has to be found in the detached base-line it affords for a criticism of our own work. The most general criticism of our engineering education that I have to make is that we have conceived it too narrowly, too much as a type of teaching process and too little as a vital factor in our economic life. We have been so preoccupied with our own subjects, our own departments, our own institution, that we have given all too little thought to technical education as a whole.

Technology, for all the preëminence and prestige with which it has carried out its chosen mission, cannot be wholly absolved from this criticism. I find as I move

By WILLIAM E. WICKENDEN  
*Director of Investigation, Society for the Promotion of Engineering Education*

about in the wider circles of our technical education that the Institute has something of a reputation for aloofness. Some are even unkind enough to call it complacency and self-satisfaction. It is very easy and natural to feel little concern to help the other fellow or learn from him when one is conscious of

doing his own job well. However, I am glad of this chance to pay a tribute to my former chief and present co-worker, Professor Jackson, and to that prince of Technology Alumni, Mr. Calvin W. Rice, '90, National Secretary of the American Society of Mechanical Engineers, who stand out in bold relief in keeping the Institute in active touch with the wider movements in technical education.

The result of this preoccupation with detail and unconcern with the general situation of which all of us have been guilty is that we have gotten a national, standardized system of technical education by sheer imitation and not by intelligent design. A few great pioneer institutions, carefully designed by their founders to fit the educational and economic needs then existing, have been uncritically copied from one end of the land to the other. The result is a woefully top-heavy system. We have too many institutions attempting pretentious programs of advanced professional training, and nowhere near enough giving substantial industrial training intermediate between the high schools and the professional schools of engineering.

Germany, with her 65,000,000 people and her intensive industrial system, makes out with ten polytechnic schools and two mining schools of university grade, but there are between twenty and thirty admirable *Technicums*, middle schools of the Pratt Institute type, enrolling in the aggregate as many or more students than the schools of highest grade. In Great Britain the contrast is even more

*EXERCISING every caution for the avoidance of extravagant speech, The Review Editors still believe that it is a fair statement to say that at no time in the past has The Review been privileged to publish an article so absorbing in its style or so vital in its content as "The Engineering Scene." Mr. Wickenden, recently returned to this country after an eight-month study of technical education in England and on the Continent, has succeeded to an extraordinary degree in recreating the picture which he saw.*

*Mr. Wickenden's stay in Europe was but one phase of the international investigation of technical education which he is directing on behalf of the Society for the Promotion of Engineering Education. Readers of this article will discover a fine balance between the statement of conditions abroad and conditions at home. They will find plain and unvarnished home truths which lunge heavily at the complacency of many of our American institutions. Technology, itself, he does not spare. We quote one of his forceful paragraphs:*

*"Technology, for all the preëminence and prestige with which it has carried out its chosen mission, cannot be wholly absolved from this criticism. I find as I move about in the wider circles of our technical education that the Institute has something of a reputation for aloofness. Some are even unkind enough to call it complacency and self-satisfaction. It is very easy and natural to feel little concern to help the other fellow or learn from him when one is conscious of doing his own job well. However, I am glad of this chance to pay a tribute to my former chief and present co-worker, Professor Jackson, and to that prince of Technology Alumni, Mr. Calvin W. Rice, '90, National Secretary of the American Society of Mechanical Engineers, who stand out in bold relief in keeping the Institute in active touch with the wider movements in technical education.*

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striking; it is positively the reverse of our situation. Students of engineering schools of university grade do not exceed 2500 in the aggregate, while the number in technical schools of junior and intermediate grade is between ten and fifteen times as great.

The top-heavy situation in America is further revealed by the fact that the majority of the students entering our technical colleges find the elaborate four-year program to be an impossible program. Out of one hundred freshmen who enter an average engineering college, only twenty-nine will be in the commencement procession four years later. Some will succeed by taking an extra year and some will be replaced by men coming on advance standing from the arts colleges, but nearly two-thirds of the entire lot go through the sieve and get their preparation for life by failing to reach their objective. One resourceful advisor of freshmen puts the prospect up to them in a very concrete form. He says: "Now, fellows, let's visualize this thing. Each of you look at the man at your left — when you come back next year, he'll not be here. Now turn the other way and look at the man on your right — when commencement day comes, he'll not graduate."

There are valuable by-products, of course, but altogether too much waste — waste of costly educational facilities and tragic waste of the irreplaceable years of youth. The evidence we have been gathering in this country and abroad is leading me to the conviction that we need better engineers, a smaller number of men than we are now graduating with decidedly better training, and that we need a much larger group with a briefer, more intensive and more practical training. We need to give the majority of the students who flock to our engineering colleges a less elaborate program at which to succeed instead of fail, but we need to give the minority, and perhaps an even smaller minority than at present, who survive to graduation, a broader as well as a deeper training. The whole structure of our technical education needs more elasticity, if it is to meet the needs of our youth on one hand and the needs of our industry on the other.

## II

But we are supposed to be discussing Europe rather than America. If one were to judge by the visible scars which remain he could never make himself believe that Europe had experienced any such cataclysm as the late war. The material restoration of the ravaged areas is nearly complete. The mines and industries of northern France are now well above the pre-war level of production. Germany engineered the inflation period so as to completely liquidate the middle classes and to fix her negotiable wealth in a form which could not be removed from the country. Consequently her industrial equipment and her transport facilities, by highway, water and rail alike, are in an admirable state of renovation. In Italy the Facisti have undertaken a program of reclamation of land and development of resources on a most extraordinary scale, aiming at a goal no less than the making in Italy of a home for the fast multiplying Italian people.

The people, too, conceal their scars. When one recalls the millions of mutilated and the tens of millions of

wounded, the occasional sight of a wooden leg, an empty sleeve or a glass eye, gives but a slight hint of the miseries endured. The vigorous appearance of practically all classes in Germany and Austria makes it hard to believe that the two nations went literally to the very edge of starvation. So great is the natural crowding of population that the wastage of man-power can not be discerned superficially.

To a surprising degree, too, the people conceal their spiritual scars under an exterior of cheerfulness and optimism. There are endless signs of petty economy of dress, such as the prevalence of celluloid collars, of frugality of eating; such as the habit of carefully mopping up all gravy from the plate with bits of bread, and of saving on transportation, such as the overcrowding of the cheaper conveyances, but through it all British phlegm, French urbanity, German dignity, Austrian *gemütlichkeit* and Italian spontaneity are pretty much what they used to be. The Europe of today is an amazing testimony to the inherent resiliency of human nature and to the no less remarkable resiliency which modern industrial science has given to the economic system.

The legacies of the war are plainly social, political, and economic. Individuals are much the same as before, but institutions are profoundly shaken. If one would understand the present trends of technical education abroad he must do so in the light both of tradition and national programs of industrial recovery and expansion.

One would seek in vain for indications of a program of expansion in the upper levels of French technical education. Admission to the conspicuous schools, especially those in Paris, is eagerly sought for, but is rigidly restricted and intensely competitive. The French consider it both wise and just, in a land already highly developed and having no great program of industrial aggrandizement, to protect the engineering profession from dilution by definite restriction at the source of recruitment. Higher technical education, like all other higher education in France, has a strong intellectual bias. Admission is restricted to a selected elite. The schools pride themselves on the professional distinction of their professors, most of whom are not teachers by career but active practitioners who receive only nominal salaries and serve primarily for honor. The instruction has a strong mathematical and theoretical emphasis, partially balanced by the solution of engineering problems of substantially real magnitude. French laboratories, for the most part, are rather meagre. A few of the most modern installations indicate that the French know how it should be done, and give support to the ever-present excuse of public poverty.

These characteristic virtues — teachers of high intellectual and professional distinction, restriction of admission to the mentally gifted, great theoretical emphasis and a régime of almost military rigor — together with the corresponding defects, such as paucity of material equipment, meagreness of practical experience, absence of an adequate recreational life and the lack of organized student activities to provide a sort of experiment station for self-discovery and self-ex-

pression, run all through French secondary and higher education.

Technical education of the middle grade, so meagrely developed in America, is relatively well provided for in France and is of excellent quality. The French have dignified technical education by the appointment of a special under-secretary of state, but the great efforts of his office are devoted to the development of an adequate national system of apprenticeship for the manual crafts.

The great tenacity of French character is equally manifested in her economic program and her educational program. Quality and not quantity production, skilled handcraft and not standardized specialization of labor, organization on a modest scale and not mass organization, bid fair to remain the industrial ideals of France. Intellectual distinction rather than practicality bids fair to remain her educational ideal. France is striving to remain France, a land of internally balanced economic life, where agriculture is the dominant industry, where the drain on natural resources is fairly light, where wealth is the reward of thrift rather than the fruit of great exploitation, where individualism prevails over mass organization, where science is cultivated primarily for intellectual satisfactions, and where the things of the spirit are preferred to a lavish scale of material existence. France prefers to remain France, if need be at the risk of national life. She wants to work out her financial problem through time and thrift, as she has always done. Security is her first requisite and the second, a long-term funding of her debts. Given these, France is in the most secure and favored position of any of the great powers. Without them her position is the most precarious.

### III

There is a definite change of atmosphere as one passes over the border from France to Italy. Where France is carefully measuring her strength for the long pull, the mood of Italy is one of exuberance. You know the romantic story of Fascism. It was not a choice between dictatorship and constitutional government. The choice was between chaos and order, between the red flag of communism and the black shirt of semi-military discipline. With all its abuses, its intimidation, its fantastic ambitions to recreate the ancient Roman empire, the Mussolini régime is attacking the staggering economic problem of Italy with a boldness which compels wholehearted admiration.

To picture what Italy must contend against, let us take the area of New Hampshire, Vermont, New York, New Jersey and Pennsylvania. Let us take out all the coal and oil and all but a small fragment of the metaliferous ore. Let us strip off practically all of the forests and leave one third of the entire area non-arable mountain land. Let us turn most of New Jersey into a region so arid that a peasant at some seasons would give a wayfarer a drink of wine rather than a drink of water. Let us mark off the area of Vermont as swamps and marshes. Now let us double the population and set it to increasing one per cent each year with compound interest, wipe out about three fourths of the existing wealth and pile on a huge war debt.

Now it is against such handicaps as these that Italy is trying to make of herself and her north African colony an adequate home for Italians. It is an engineering problem on a truly national scale. The program calls for the drainage of all swamps, the destruction of mosquitos and other sanitary hazards, the development of all water-powers, and the irrigation of Calabria with water brought hundreds of miles from the distant Apennines. It calls for a great program of railroad electrification. It calls for the reclamation and repopulation of Sardinia which was a great granary in Roman days, but later was decimated by malaria. It means the development of the new waste land of Lybia for the growing of wheat and cotton. It means the development of manufacturing on the lines so intelligently followed in Switzerland and through the application of a maximum of technical knowledge and highly skilled labor to a minimum of imported raw materials, as in watch and clock making.

While it would be plainly improper to rank Italy at the front of the great powers of Europe, she probably leads them all in her present rate of material progress. Higher technical education has been in the direct path of this movement. Italy is par excellence a land of builders. Her traditions and her program give civil engineering a dominant place, but electrical engineering is coming to the fore as a strong second. The other branches are developing slowly and are still far in the rear, unless it be naval architecture, in which the Italians have great ambitions.

The polytechnic schools of Italy, like those of Germany are coördinate with the universities. The first two years of the five-year course may be taken in either type or institution. In point of equipment, personnel, standards and morale the Italian polytechnics quite outran my expectations. Milan is rebuilding and Padua and Turin expanding on the most modern lines. The professors are mostly teachers by career, and are men of great devotion and fine personal qualities. The present low exchange rate has drawn to Italy a great colony of foreign students formerly established in Germany.

Italy has done one interesting and unique thing: she has made engineering a legally closed profession, to all except the graduates of her polytechnics and similar institutions. The first year after graduation is to be spent in subordinate employment, after which a state examination opens the way to professional licensure.

### IV

Switzerland stands supreme in Europe and perhaps in the world in the application of organized intelligence to a severe problem of national economics. Wholly devoid of natural resources, except her soil, an abundance of rock, her modest forest reserves, her water power and her scenery, she is yet the supreme example of evenly distributed modern comfort in her scale of living. Her industrial system, based on the application of the maximum of highly trained intelligence and skill to the minimum of imported raw materials, is a wholly unique example of deliberate economic selection. That is another way of saying that Switzerland is probably the best engineered country in Europe. The famous Polytechnic Institute at Zurich and the numerous technical



middle schools which dot the several cantons, have been direct factors in this scheme for technical education of all the countries east of the Rhine and maintain their place among the most noteworthy in Europe today.

In Czechoslovakia one finds the leading exponent of the Slavic renaissance. A fair land of fertile plains and forested hills, well endowed with mineral resources, with an intelligent and skilled population, she was the industrial heart of the old Austrian empire. Today she combines the artistic and intellectual traditions of her own past with an efficiently organized educational system inherited from the Austrian régime. Czechoslovakia is a sort of back window to Germany and a lookout over Russia, the land of mystery. The Czechs look with misgivings on the fairly obvious preparations of the Germans for the economic exploitation of Russia. They are making an open bid for American sympathy and financial support. They appeal to us to use them as a spear-head for any penetration we may wish to make into Russia. They want our support as a counterpoise to Germany and France in the struggle to dominate the Slavic world.

No other European people, unless perhaps the Germans, are so deeply interested in all things American as the Czechs. As an example, it is said that more copies of the report on Waste in Industry made by the American Engineering Council have been circulated in Czechoslovakia than in America itself. The Czech technical schools are decidedly strong in civil and mechanical engineering. There is no dearth of notable professors such as Melan and Doerfel, and they serve with great devotion for meagre salaries, although the material facilities are of the most modest nature. Herein is the greatest contrast to our American schools, incomparably rich in equipment, but far too often staffed with second-rate men.

## V

And now we turn to Germany, for the American observer by far the most interesting, if not always the most agreeable area in Europe. As seen last spring, it was far from an even picture, ranging from gloom and depression at Cologne and Aachen to buoyancy and confidence at Berlin. Physically and materially Germany is strikingly free from visible scars. Her people appear solid and well fed. They have all the rudiments of modest comfort and they have them well distributed. Luxuries are few. In her present state, the bicycle rather than the automobile is the symbol of an economic margin.

Industrial Germany must be pictured as a powerful economic machine, expanded during the war and rehabilitated during the inflation period. She lacks only working capital, raw materials and markets to rival our own industrial system. There are very plain signs of a five-fold program of economic recovery.

The first item of this program is the development and exploitation of technical knowledge, which the Germans are now pursuing with redoubled zeal. The second item is access to the surplus food supplies and raw materials of Russia. The third item is access to the markets of the East and South, which calls for the wholesale leveling of the economic barriers by which she is now surrounded. The fourth item is the attraction of working

capital from the American money market, to offset her own tightly restricted credit. The fifth item of the program is what the Germans characteristically call *Fordismus*, an abstract noun which turns Henry Ford and his famous methods of production into a complete philosophy of industry.

Germany is poor, it is plain enough, but not too poor to expand and strengthen her higher technical education to a most impressive degree. Probably this expansion of plant and equipment is part of a national policy to fix and preserve the liquid wealth of the Reich in a form such that the only possible reparations which can be exacted must be as a surplus of production over Germany's own elemental needs. She gives the impression of being desperately poor in private wealth and immensely rich in collective wealth as employed in education, industry and transport. If she can use all this machinery to advantage she will fortify her world position and insure her economic future by the very operations of the reparations plan.

I can only suggest as a bare catalog the salient features of her higher technical education — the rather exceptional qualifications of the professors, largely drawn into teaching from practice instead of being promoted up an academic ladder; the free régime of work, under which the student comes and goes as he pleases; the absence of a fixed curriculum, but in its place two comprehensive groups of examinations to be passed; the three characteristic types of instruction — lectures, practical exercises and semi-independent projects of analysis and design; the simplicity of the scheme of organization, with its absence of detail records and disciplinary regulations; the large amount of original work in progress in the laboratories and the correspondingly numerous doctor candidates; the unique resources of certain laboratories which have grown up through the coöperation of the industries and the state with particular professors of wide reputation; the strong emphasis given to training in engineering design; the absence of the textbook and cookbook laboratory system; the growing interest in student housing and welfare; the rudimentary beginnings of a system of athletics and other student activities; the persistence of the duelling system — it is a theme that needs an entire paper to do it justice.

The great and outstanding fact about German technical education is its tremendous expansion. Taken as a whole higher education in Germany was somewhat less in volume in 1924 than in 1914, just before the war. Enrollment under the faculties of medicine, dentistry, theology, the humanities, the mathematical and physical sciences declined greatly. Law and economic science made appreciable gains. In the same period chemistry, pharmacy, and the several divisions of engineering virtually doubled. Of this technical group civil engineering was the only branch to show a considerable decline. Mechanical and electrical engineering enrollments are practically quadruple the pre-war figures.

The outlook for civil engineering is not considered attractive. Transport facilities are highly developed and have been largely renovated since the war. The inflation period led to a building boom from which the country has since reacted. There will be little money for large

projects of civil construction for a long time to come and still less to exploit concessions in other lands and so make jobs for German civil engineers.

The great gain in enrollment in electrical and mechanical engineering is indicative of the immense development in manufacturing and the intensive mechanization of agriculture on which Germany stakes her economic future. Germany has learned the stern economic necessity of pulling together. She is facing her problem in a wholly concerted manner. The inflation period enabled her to liquidate all internal debts and write down her capital accounts to a very low level, in consequence of which she is able to bid for business in the international market with practical disregard of overhead costs. The whole country seems to have made up its mind that the most hopeful outlook for a career for a young German is in the manufacturing industries, with the result that these branches of engineering are attracting the greater part of the group who under the old régime would have sought officers' careers in the army or navy.

It seems plain, however, that Germany cannot possibly absorb all her young engineers at home without degrading many of them to menial positions. One hears, for example, of young Ph.D.'s in chemistry doing common labor in brick and tile yards. In all probability she will send abroad large numbers of young engineers to serve as the advance agents of her economic penetration. Our young engineers will be face to face with them in every foreign market, and they may be face to face with them in no small numbers in our own industries.

## VI

The shortness of our time will compel us to fly over Belgium and Holland without a stop, in order to dwell for a brief period in Britain before coming to our conclusion. Britain is indeed a sad picture. She is on her feet, but bewildered and shaken. She has vast reserves of wealth and power, but her self-confidence and self-sufficiency are faltering. It is a new experience for Britain to come out of a war weaker and poorer. You will recall that the industrial revolution in Great Britain came during a period when continental Europe was disrupted by the French revolution and the Napoleonic wars. In this period Britain gained an immense pre-eminence in manufacturing and world trade. She solidified her empire and fortified her position by the control of international banking.

The recent war, however, sent all the competitors in world markets back to scratch. Our own industrial system and that of the continental countries was greatly expanded to meet the demands of war. The peace found the world with greatly enlarged producing power and greatly diminished buying power. Currencies were depreciated, shipping was overbuilt, ocean carrying fell off, marine motive power went over from Welsh coal, Scotch boilers and British engines to foreign oil fuel and continental Diesel motors. For a country like England where only one person in seventeen lives on the soil, the effect of dislocation of world trade is simply staggering.

No doubt there will be recovery, at least in part, as normal conditions return on the continent. But Britain is beginning to scrutinize her industrial set-up, and with it her system of technical education, with a new and

critical seriousness. British engineering and British industry have a great tradition of practicality. An engineer has been regarded as a practical builder, primarily the product of the factory, the mine or the field of civil construction, with enough native curiosity and energy to get some insight into the science underlying his craft. Until quite recently there had been a distinct divorce between university education and engineering. Universities were supposed to be for gentlemen and scholars, while engineers were presumed to be neither, in the narrow and technical sense of the oft-used terms. Of course, there were notable exceptions, like Sir Charles Parsons, but for the most part higher technical training was looked upon with doubtful favor by the dominant men in the engineering profession.

The great genius of Britain in the field of technical education has been expressed in its numerous local technical schools, which serve mostly as continuation centers to supplement training through practical apprenticeship. Education of this type has very substantial virtues, as the results of the Lowell School here at the Institute will testify, but it has one fundamental defect—it tends to dissociate engineering training from high scientific culture and research. In recent years British industry has begun to suffer obviously from this divorce from science. There is now a marked tendency to foster university work in engineering and applied science. Laboratory facilities are being improved, graduate students are multiplying, and engineering research is being pushed concertedly and with vigor. It remains to be seen whether this movement may not have come too late. The British tradition of muddling through dies very slowly. As one of her discerning professors put the matter, Britain is par excellence the land of trial and error. Given unlimited time to make adjustments, trial and error may be very effective, but the present crisis is one demanding decisive and intelligent action.

## VII

By way of summary and conclusion, let us recapitulate some of the more striking contrasts between higher technical education here and abroad.

1. We have an unbalanced and top-heavy system, the result of imitation and the absence of any coördinating control comparable to the European ministries of education.

2. Because our system is top-heavy, a good deal of it is pretentious. An insatiate craving for prestige, even though it may be hollow, and an uncritical emotionalism characterize too much of our entire scheme of higher education. In comparison, European educators are realists.

3. We have little to learn abroad as to material equipment, except in a few special laboratories in Germany. We might learn, however, how far short we fall of getting the full possibilities out of our investment.

4. We are in real danger of exalting material equipment and perfection of teaching routine above men, as the foundation of our work. Getting the men is apparently harder than getting the things. It is partly a matter of compensation, of salaries above the level of



meanness, but it is far more a matter of the nature and circumstances of our type of professorial career, and it is most of all a problem of creating a national tradition which gives generous recognition and reward to non-commercial types of achievement. As it is we do not pay in money and we do not know how to pay in honor.

5. We have to compensate for the results of a scheme of secondary education which, however admirable in its widely inclusive democracy, is comparatively flabby and superficial. In point of mental maturity and discipline, extent of knowledge and capacity for hard work, the European youth of eighteen is nearly two years in advance of our own. By intensive methods and a crowded schedule we recover about half the deficit in our four-year programs and send our graduates out on an approximate par with the product of a three-year program in Great Britain, somewhat behind the product of the best three-year programs in France and practically a year behind the diploma engineer from the four-year programs of Germany, Austria, Switzerland, Holland and the Scandinavian countries.

6. We shall lag in the higher stages of technical education unless we can get our abler students to assume much more initiative. Our whole set-up tends to become a scheme to *give* students an education. Too often our colleges are highly elaborate school-houses, our students are overgrown school-boys and our professors glorified school-masters. The take-it-or-leave-it program abroad assumes that students are expected to *get themselves* an education, under the guidance of creative men and in an environment of real intellectual production.

7. The American and the British student have a decided advantage over the continental student in physical development through athletics and in general development derived from other extra-curricular activities. Speaking broadly the American graduate fits into the teamwork of business and practical life more

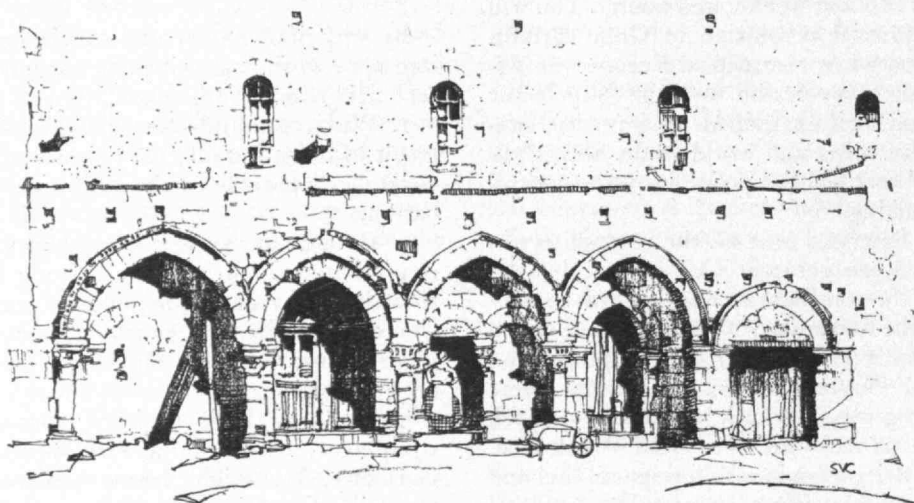
readily than the continental diploma engineer, but he is apt to have an inferior grasp of theory and fundamentals and to be less capable of working independently.

8. Training in design by full-scale project work bulks much larger in the continental scheme than in Britain and America. Our men get a more extended training in shop and laboratory technique, although much of it is deficient in analytical qualities.

9. Continental Europe depends on the higher technical schools as centers of research and original work far more than American or Great Britain. The large-scale industrial research laboratory is essentially an American institution, and, educationally considered, something of an American handicap.

10. Both professors and students abroad have more freedom than with us. Professors work under an ethical code which obligates them to devote all their efforts to the advancement of their special fields of knowledge. Their fixed appointments are fewer, but they direct a volume of work limited only by their creative ability and their power to draw disciples about them. Except in France and Italy, students abroad are free to attend or stay away. They work on long-range assignments of work rather than day-to-day installments. Examinations of comprehensive scope, rather than detailed daily records, are the measure of their achievement and progress.

In conclusion, I find myself drawn to the conviction that we have a program of technical education which is well suited to a considerable group of our students of a medium grade of ability. The present program is plainly too long and too complex for a large group of lower powers. But there is a third group, not large and probably not as large as it should be, young men of high native ability and mental energy. We need a better program, a freer program, for these men and in providing for them we have most to learn from our colleagues across the Atlantic.



THE CLOISTER AT SAINT-BENOIT  
AUG 12

SKETCH BY SAMUEL CHAMBERLAIN, '18

# The Handwriting on the Wall

"It reads: 'The price of progress is research' "

THERE is an intimate relationship between science and business. Only the other day

I heard a man ask, "Where would the suspender business be without the law of gravitation?" There is also some appreciation of the fact that we are living in a period of change, in which only the resourceful can hope to maintain themselves in the face of the new conditions. Barber shops were once a haven of refuge for masculine humanity, but since they have become bobber shops so conservative a publication as the "Police Gazette" is reported to be printing two pages of Embroidery Notes.

There is a tremendously dramatic element in the Biblical story of Belshazzar's feast. The mighty king was the central figure of a great spectacle, which included his lords to the number of a thousand and his wives and concubines. They were feasting and making merry in the vast hall of the palace, and power and dominion seemed secure. Suddenly, against the wall appeared the fingers of a hand, which wrote upon the wall above the great candlestick the momentous legend in which Daniel read Belshazzar's doom after soothsayers and astrologers had failed to make interpretation. Belshazzar had been weighed in the balance and had been found wanting, and that night the business of governing the mighty empire of Babylon passed into other hands.

Doubtless Belshazzar deserved what he got, but even at this late day I am moved to say a good word for him. He had called in Daniel as an expert, and, despite the unwelcome character of his report, had paid his bill upon the spot. How many of you, after prophesying that a business was headed for a receivership, have been rewarded with a scarlet cloak and a gold chain about your neck and a directorship in the company, all without discount for cash? Belshazzar may have been a poor king, but he was an ideal client.

By ARTHUR D. LITTLE, '85  
Of Arthur D. Little, Inc.

ONE bears a great deal of the inarticulateness of scientific men. The wizard of the laboratory is supposed to be able to express himself intelligibly to no one who cannot balance a chemical equation. Happily for us, the living refutation of this generality is none other than a Technology man. Dr. Arthur D. Little, '85, happens to be a scientist who is at the same time an essayist of the front rank. His urbane and cogent papers, written from time to time on one occasion or another, have frequently appeared in *The Atlantic Monthly*, and elsewhere. Now and then *The Review* catches one of them on the ricochet, as here, for example.

This present article is a reprint of an address made by Dr. Little at a recent meeting of the American Institute of Chemical Engineers, in Providence, R. I. A new significance is being added to the medieval "Laborare est Orare," and Dr. Little helps to add it. The work takes the form of scientific research and the worship is of the Scientific Fact. Dr. Little's present paper deals only with a corollary to the main proposition, but it deals vigorously, and from a frivolous beginning he develops a sincere and thought-provoking conclusion.

Belshazzar, as some of you may know, is dead. He has been dead a long time, some twenty-five hundred years. I would have directed your attention to someone who, like Charles the First or Louis the Sixteenth, had died more recently were it not for the fact that they, unlike Belshazzar, failed to see the handwriting on the wall. Their end was, nevertheless, the same.

There is a strange periodicity in the recurrence of this handwriting and a still more curious inability to perceive it on the part of those who sit down to feasts. It is on the walls where Rotary clubs lunch, where manufacturers' conventions dine, where chambers of commerce meet, and where trade associations gather. It outshines at Atlantic City the illuminated signs that compel attention to cigarettes and chewing gum, but for the interpretation of it there are no scarlet cloaks and golden chains. Traveling expenses and oblivion are the utmost Daniel could hope for today, and I can look forward only to oblivion. Even at that price I am willing to interpret the handwriting which confronts our industry. It reads: *The price of progress is research which alone assures the security of dividends.*

I had, not long ago, to look over the balance sheet of a company which has paid no dividends for several years. I was at

some loss to account for its poor showing until I read among its assets the item, Laboratory Equipment \$49.51. I hold a little of its stock. How much am I offered? In such a laboratory one would expect to find the embryonic chemist who reported that hydrofluoric acid "itches" glass, or that other one who requisitioned "methyl orange juice and a brunette, with meniscus."

I once suggested to the purchasing agent of a great corporation, who bought many million dollars' worth of material a year, that large savings could be effected by chemical control of his supplies. He closed the interview by saying: "I believe in chemistry all right, but I have a son who is a sophomore at Yale. He comes home every



other Sunday and I get all of it I need from him." That company is now in the receiver's hands. The result would probably have been the same if the son had gone to Harvard.

One hears that the textile industry of New England is in a bad way, but one is also told that "its only problem is that of sales." Sales are likely to remain a problem until mill agents realize that research creates markets. Just now it is about as easy to interest the agent of a cotton mill in research as it is to sell trunk straps to an elephant. Meanwhile, the Europeans, who have learned to trust research, have developed artificial silk and find no difficulty in selling wood pulp at \$2.00 a pound in a market in which old-line mill agents can't sell cotton.

The future of the shoe industry in New England has long been a matter of much local concern, but it would be hard indeed to find a New England shoe factory that could list, among its assets, even \$49.51 worth of laboratory equipment.

But this failure to read the handwriting on the wall is by no means peculiar to New England. It is still, with a few conspicuous exceptions, characteristic of American industry as a whole. Not long ago Dr. Teeple pointed out that of forty-four American companies which, during the war, engaged in the production of potash, only one has survived, and it was that one alone which developed and supported a program for research.

If there is an industry that needs research it is that of naval stores; yet the president of one of its largest companies has said within a few months: "There are no scientific problems in our business." The country which has no history may be blessed, but certainly the industry which has no scientific problems is headed for perdition.

There are scientific problems without number in the petroleum industry, but does the industry spend one-tenth of a cent a barrel to bring out the enormous potential values in its failing resource? It does not. Its chemists, with few exceptions, merely measure physical constants or spend their effort on the solution of miscellaneous routine problems.

Science is now advancing at a rate so rapid and with results of such far-reaching influence that no industry can hope to ignore research and live. Summer follows winter with such unfailing regularity that the ice business would seem to be reasonably secure. But the iceman has now to reckon with the probability that a million electric refrigerators will be installed within the next two years.

The Victor Talking Machine Company had a business so highly profitable and so well organized that dividends on its common stock averaged more than \$42 a share for eleven years, to which, in 1922, was added a 600 per cent stock dividend. Meanwhile, research has developed radio, and the Victor Company has passed its dividend. That is the sort of handwriting that any manager should be able to read; yet only the other day the president of a corporation making metal products of a highly specialized sort wrote, "We are not interested in any technical development work."

In a situation so clear to us as chemists and chemical engineers and so charged with peril to American industry it is our imperative duty to translate the handwriting

on the wall to those who mistake it for a mural decoration.

American manufacturers must be made to understand that we are in the midst of an industrial revolution, in the course of which many established businesses will find their balance sheets deeply dyed with red unless those charged with the responsibility of management can learn to direct their course in the flood of new knowledge pouring from the laboratories. To those with vision, science is bringing countless new opportunities for constructive and profitable effort, while it is likely to take whatever they may have from those who will not see.

Everyone is familiar with the recent terrific impact upon our wood distillation industry of a new German synthetic process for the production of methanol. There has been the usual reaction — a rush to Washington to have the tariff raised when the only protection against research is more research. Acetic acid, another basic product of this industry, is now being made from coke and lime through calcium carbide and acetylene, but it was not so made by raising the tariff.

The foundations of the solvent industry are similarly shifting. It is but a little while since butanol, made by a relatively cheap fermentation process from corn, replaced the expensive amyl alcohols, but already work in our own laboratory has convinced us that amyl alcohols and many others can be far more cheaply made from petroleum. The paint and varnish industries find themselves suddenly called upon to reckon with altogether new types of finishes, the products of research in nitrocellulose and solvents.

There has been for years a comfortable opinion among those engaged in the business of making paper that an understanding of its mysterious operations was inherited, like red hair. A chemist could always tell a born paper-maker, but he couldn't tell him much. Even our resourceful friend, Moore, had to break into the mill by way of the wood yard, but now the mill is raising peanuts to make oil to convert into something with a much prettier name than lard, by combining the oil with hydrogen, which is waste product of the plant he built to bleach wood pulp. Isn't it ridiculous — but very profitable.

It is about time for the born paper-maker to cultivate a sense of the ridiculous, for a lot more foolishness is coming. It used to be foolish to talk of making paper from southern pine, but somehow a chemist did it, and southern mills are making not only paper but money. The old-line superintendent, who doesn't need any "damned chemist" to come down from Boston to teach him the paper business, will soon be competing as best he can with new methods of making newsprint from hitherto unused woods and with new processes for wood pulp giving hitherto unheard-of yields.

The fuel industries are in an extraordinary state of flux, and many revolutionary developments are impending. The use of powdered coal is rapidly extending. Low-temperature carbonization is steadily making headway. We are coming slowly but certainly to an artificial anthracite and we may confidently look to coal for a proportion of our motor spirit. Cheap oxygen is almost here, and when it comes there will be profound

changes in combustion methods and in metallurgical practice, and these will require new refractories.

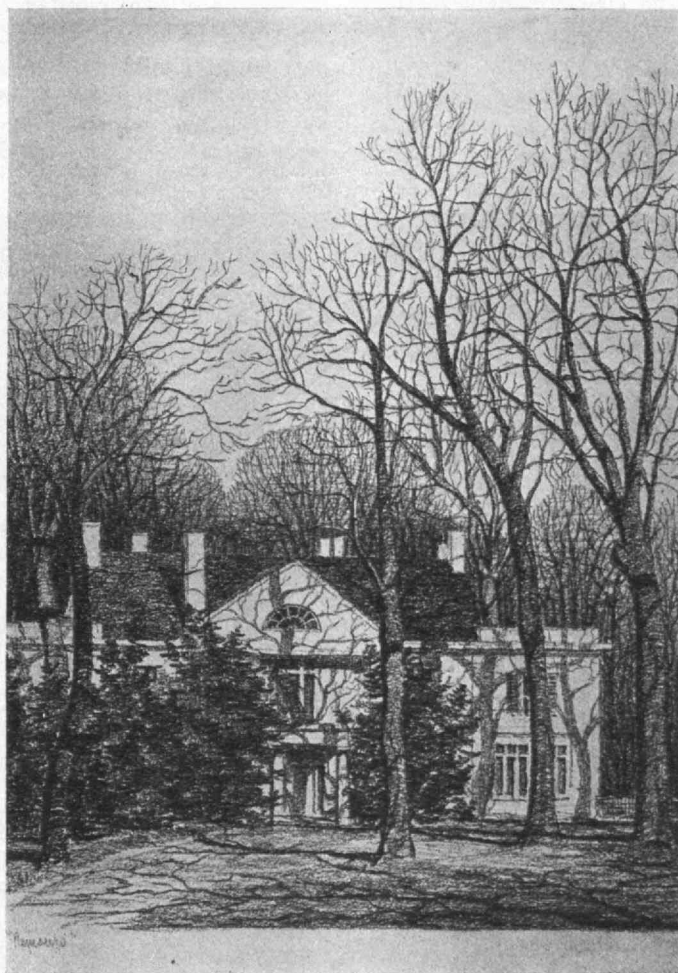
The gas industry is facing a great development, much of which will be along new lines. New methods are available for water gas enrichment. There are serious proposals for the complete gasification of coal and for great gas works at the mines with high-pressure distribution. The industrial use of gas has just begun, and house heating by gas is near at hand. Having learned to cook by gas, we are now about to install the gas-fired refrigerator.

If we consider power generation we find the mercury turbine operating at extraordinary efficiency in a near-by city. Steam pressures in central stations are rising from 500 to 700 pounds, but they are not going to stop there. One unit in the new Edison plant at Weymouth will operate at 1200 pounds, while at Rugby, England, Benson boilers are delivering steam at 3200 pounds.

Industrial developments along new lines are everywhere in progress, and they call upon the chemical engineer for new equipment and new methods of production and control. Contact processes, operating at high pres-

ures, present many new and serious problems, which we have as yet hardly considered in this country. The pyrolysis of petroleum and of other organic materials calls for equipment of new design and for fractionating apparatus of the highest order of efficiency. Whether tetraethyl lead is here to stay or not, it has been with us long enough to indicate that the whole aspect of a major industry may be changed almost overnight by the advent of a new product from the laboratory.

Though I have read no more than the first word of the handwriting on the wall, it must be clear to all that in the industrial revolution which it portends the chemical engineer will be on the firing line. He will be called upon to attack and conquer new problems at every step of the rocky road from the laboratory to the plant. The Institute of Chemical Engineers has devoted much consideration to the education required to fit the chemical engineer to meet his new responsibilities. Let us now endeavor to educate the manufacturer to realize the opportunities before him, and let us teach the investor to appreciate the perils that confront those companies which ignore research.



PENCIL SKETCH BY ALBERT KRUSE, '22

*Reproduced by courtesy of Pencil Points*



# *Visiting Committee Reports: II. Biology and Public Health*

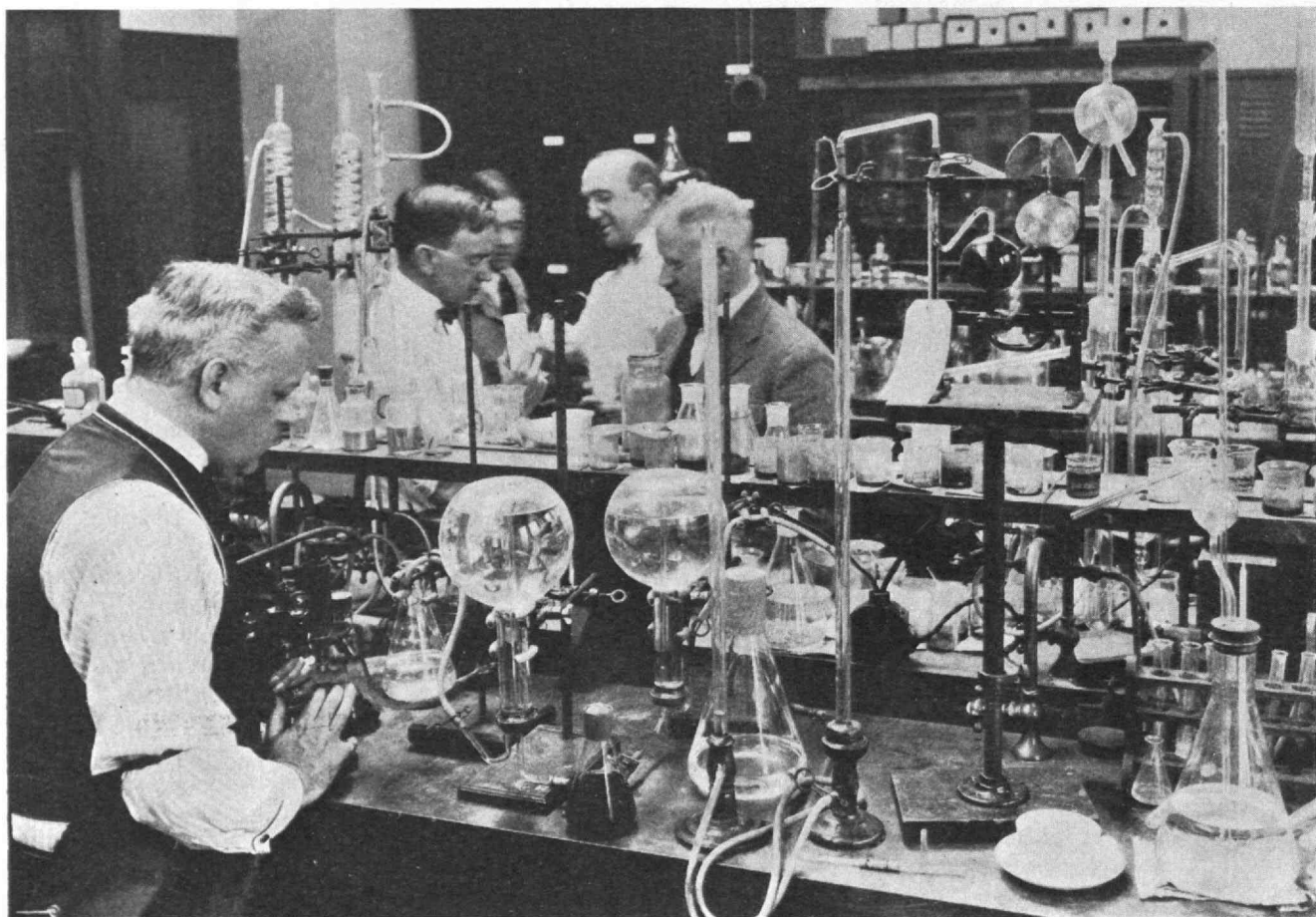
*Report of the Corporation Visiting Committee on the Department, published by arrangement with the Corporation Executive Committee*

THE Visiting Committee on the Department of Biology and Public Health takes pleasure in reporting that it finds the department in excellent condition, but capable of handling an enrollment considerably larger than at present. Positive action looking toward increase in number of students is highly desirable.

To the Visiting Committee it appears that if the entering student body were adequately informed as to the nature of the work of this Department and the opportunities for its graduates in the administrative, technical, research and teaching fields, a larger number of men would be certain to enter the Department. The average student looks upon the Department as unrelated to industry and as dealing only with biological science and preparing men essentially for that field, public health administration and teaching. Relatively few have any conception of the contact of the Department with the food, fermentation and other industries. Therefore, it would appear advantageous to make the effort to bring to the attention of new students the scope of the work of the Department and the fields of activity open to its graduates.

Is it not significant, with reference to the work of this Department, that its graduate students are increasing much more rapidly than its undergraduates? Does this fact not imply that there is a better appreciation of the scientific worth of the work of the Department by men outside of the Institute, practising in this field, than there is of the undergraduate students within the Institute? Does it not at least indicate that we should make a more conscientious effort to develop to the student the prospects within this field?

In addition to the demands for men trained in the various aspects of public health work various demands are also made upon the Institute to supply men, — in the supervision of food supplies, in the preparation and testing of disinfectants and fungicides, for research, in the fisheries, textile and fibre industries, in the manufacture of a large number of food products, or in industries such as canning and drying foods, baking, and milk supply. These indicate that a new field of activity is developing in industry which involves not only a knowledge of industrial operations but the effect of these operations upon health. The study of basic sani-



A CORNER IN ONE OF THE BIOLOGICAL LABORATORIES

tary science and public health, combined with a knowledge of special industries, leads to many opportunities for service into which enter hygiene and sanitation of industry, occupational accidents, industrial hazards due to dusts, abrasives and poisonous gases; defective ventilation; and more broadly the general supervision of welfare, health and comfort of operatives in large industrial plants.

The world's food supply is essentially dependent upon biological agencies, and its production, handling, transportation and preservation involve many processes and manifold problems of biological character, the solution of which demands specialized knowledge. Training in food technology, therefore, includes a thorough consideration of such subjects as world's food resources, methods of food examination, inspection and control, methods of food manufacture and preservation, prevention of waste and spoilage and the utilization of by-products. It is obvious that technical training in the food industry requires co-ordinated study in economics, business management, chemistry, bacteriology and the elements of refrigeration engineering, as well as detailed knowledge of sanitation and the hygiene of the special industries involved.

*Grouping of Studies.* The instruction and research work in the Department might be described as providing sound training in the following fields:

1. The fundamental biological sciences,
2. Public health administration, health education and industrial hygiene,
3. Food technology and engineering,
4. Fisheries technology and engineering,
5. Fermentation and biochemical industries, including applications of economic biology in other special industries such as tanning, timber preservation, disinfectants, fungicides, and insecticides, textile and fibre industries, and in the general conservation and utilization of plant and animal resources.

*Recent external activities of Department.* It may be of interest to refer briefly to some of the recent activities of the Department, outside of the routine lectures and laboratory work.

Professor Prescott continues in close contact with a number of important firms in various branches of the food industries, and is serving on the advisory board of the American Institute of Baking, and as a Director of the Tropical Plant Research Foundation. He is also a research consultant for several companies engaged in food manufacture or treatment.

Professor Bigelow has been active in a study of the food of young fishes, similar to that being carried on in England and Scotland and more recently by the Bureau of Fisheries in this country. This is an important matter from the standpoint of continuous supply of the cod and haddock type.

Professor Turner has continued his interesting experiment in health education and method of developing health habits in the schools of Malden. Some thirty of his students in this important field were well placed at the end of the year. The authorities, at first somewhat hesitant and doubtful in their interest, are now enthusi-

astic over the results of this effort, and Dr. Frankel of the Metropolitan Insurance Company has shown a very active interest in the possible influence of such education in our schools upon the future health of the country. Professor Turner, who is recognized as one of the leaders in this work, was invited to attend the International Health Education Congress to be held at Edinburgh in July and to report upon the work of the department and health work in public schools as exemplified by his work in the public schools of Malden. Already such instruction is being given to upwards of 100,000 students in the preparatory schools of this country, under the supervision of those who have been trained in this Department.

Professor Horwood has done important work in his field of municipal sanitation and public health surveys. During the year he has made surveys of all the New England cities of from 40,000 to 70,000 inhabitants, as a part of the National Survey undertaken by the American Child Health Association, and has assisted in the preparation of a standard method for numerical grading of cities in their public health work. This is an important step in advance in making possible by simple graphical comparison, the actual activities and standards of different towns and cities. Any mayor to whom the low rating of his city is shown, reacts instantly and wants to know the facts and their causes, because of the dangers of adverse publicity, even though he might be indifferent to any description of the actual conditions. The competitive spirit is aroused, and vigorous action generally follows. This has proven to be the result, particularly in the communities making a business of attracting visitors.

Dr. Slack continues to render expert service as director of the bacteriological division of the Sias Laboratory at the Brooks Hospital in Brookline, and at the Boston Dispensary. The practical contact with the latest methods of diagnostic examination which his students are able to obtain is invaluable, and accounts in large measure for the demand for technicians trained in the Department.

Professor Bunker has been concerned with some new developments of major importance in the bio-chemical field. One of these bears upon the quality of dried egg albumen for use by bakers; another, the utilization of the protein content of beef blood as a food product, instead of being used as a fertilizer. A third problem undertaken in collaboration with certain corporate interests, deals with the quantitative amino acid content of grains and vegetable products, and will, it is believed, lead to the conservation of products, now largely wasted, in compounding cattle and hog feeds. In view of the significance of these investigations as illustrations of the close contact of this Department with the food industries, and as giving point to the views expressed by your Committee, it may be of interest to comment briefly upon them.

Professor Bunker states, with reference to the first problem, that it was desired "to prepare dried egg whites in such a fashion that the resulting product would be soluble in water, would have good keeping qualities in the dry state, and when used in solution be susceptible of whipping to a froth which would behave



like the beaten white of a raw egg." The Chinese product is objectionable on account of the lack of sanitary care in its preparation. The American product had been unable to compete commercially with the Chinese product, because on storage it became dark colored and quite insoluble. An intensive study showed the presence of certain chemical substances responsible for this deterioration. By suitable biological processes these were removed, leaving a product of excellent solubility, color and characteristics.

The work of turning the blood of animals into protein for food appears more revolutionary to the layman. Beef blood contains serum globulin and serum albumin besides salts and red corpuscles. In recent vitamin tests it was thought by Professor Bunker that the dried globulin and albumin fractions of beef blood should serve as an excellent source of protein in the basal diets of rats and guinea pigs. The results were most encouraging.

By accident contact was made by Professor Bunker with a corporation which owned a patented process for mechanically separating the red corpuscles from blood collected under government license in slaughter houses. They have devised an ingenious method of spray-drying the resulting serum containing the proteins referred to, and the product is a dry powder which can be taken up in water, again giving a solution of proteins.

Knowing that such solutions foam when agitated, Professor Bunker, interested in egg whites, suggested trying the solution with an egg-beater. The results were encouraging and by the application of bio-chemical methods it has been possible to evolve a process of treatment so that the dried final product is a powder of golden color, odorless, of good keeping quality, so far as tested, which, when put into solution, may be beaten to a foam structure nearly white in color and of reasonable permanence. Cooking experiments in which egg whites were used for comparison with this powder, in making cakes, showed that for some kinds of cake the egg substitute makes a better product than the egg white itself. Combined with dried egg yolks of which there is a surplus on the market, experiments showed that a very good omelet can be made from the blood powder. Icings made from sugar syrup and the dried blood powder are much better than the description sounds. No taste is imparted to cooked products by the powder, and for some purposes, at least, it is a perfectly satisfactory substitute. As the product should sell at about two-thirds the price of dried egg whites; as less of it is required apparently in making cake and similar products; and as the value of this product is much greater than the value of the blood for fertilizing purposes, the far-reaching nature of this discovery will be clear, provided experiment on a larger scale shall demonstrate its practicability, as appears likely.

A very interesting problem is now being studied in the Department for the cordage industry. Certain kinds of rope which have been produced successfully for a number of years and attained well-deserved popularity were found to undergo deterioration under certain conditions. Chemical and physical examination of the fibre used and of certain substances employed in the treatment of the rope, appear to indicate that the

deterioration was brought about through the activity of microorganisms which are now being studied. This investigation bids fair to solve for this manufacturing company a problem which threatened to impair its fine reputation for producing thoroughly reliable goods, and to cause it serious financial loss.

Professors Prescott and Bunker have suggested further lines of research in the investigation of various kinds of radiations on protoplasm, X-rays, radium emanations, polarized light, Ultra Violet light — all having an effect on living cells. Such investigations might be of value therapeutically and industrially. Efforts are now being made to develop sound methods for measuring X-rays and violet light, and radium emanations and their effects.

*Conferences with Industrial Leaders.* Following the admirable suggestion of President Stratton that the Visiting Committees attempt to get into closer touch with industry, to the advantage of the Corporation and the Staff of the Department, two special meetings were called, in an effort to see how the work of the Department could be strengthened. The first was devoted to the discussion of problems of the *Food Industry*, the second to those of *Public Health Service*. These meetings proved very helpful and stimulating in thought to those present and bear promise of broadening the work of the Department and its possible service to industry.

To the first meeting were invited representatives of the fisheries, cold storage, baking, canning and other food producing industries. While contact has not been made with all of these industries, as some of the representatives invited were unable to be present, distinct progress was made in getting into touch with the fisheries industry. The meeting has resulted in the promise of contact with the Boston Fish Exchange and the employment of a graduate of the Department to do research work for this branch of the industry, as a whole, or for one of the largest dealers in fisheries products. Plans were formulated for coöperative research by the Department in certain industrial and sanitary problems and in the utilization of certain by-products now wasted. The representative expressed himself as confident that a large and financially important field lay open to the Department in this industry.

The conclusion was reached that in the field of food technology there lies a very large and important opportunity for growth and that research should develop results of importance to pure science as well as to the industry. It was recommended that the associate who could carry on studies in the field of pure science in coöperation with a worker be employed by the industry in the solution of its important problems.

The second conference, devoted to Public Health problems, proved equally stimulating. There were present representatives of the Welfare Department of the General Electric Company at Pittsfield; the American Child Health Association of New York; the City Health Departments of Boston and Worcester; Tufts College Medical School and the School Department of Malden. The importance of work being done in this field by industry and various non-official agencies, as well as municipal or governmental health departments,

was clearly brought out, as, for instance, by the statement that the General Electric Company expends upwards of \$400,000 per year in its educational welfare work, a like amount in its hospitals, \$160,000 per year in publicity along this line; and by the statement of the effect of developing a numerical method of rating public health work done in cities, recently developed incidental to the study of such work in 86 cities in this country, having populations between 40,000 and 70,000.

Attention was called to the facts: (1) that a great field of usefulness is open to students of this department in industrial hygiene, which the Department has been unable to meet; (2) that this work does not relate exclusively to the study of industrial accidents and occupational diseases, but it is combined with educational and personal work; (3) that the individual entering this field should be broadly trained, not only in personal hygiene and the special problems of industry, but in community health work; and that he should be a good organizer and able to cooperate effectively with the official and voluntary health agencies of the community in order to render most useful service.

The conclusions reached by this conference indicated (1) that the general plan of instruction in this Department is sound; (2) that a brief course in educational psychology would be helpful; (3) that as early contact as possible should be given the student with the biological field; and (4) that it would be advantageous to give a brief general course upon Public Health and Welfare Problems to the majority of students at the Institute, in order that there might be brought home to them as future leaders in industry, the practical importance to industry of an intelligent appreciation of welfare and health problems.

Stress was laid upon the necessity for contact of the student of the Department with industry and public health problems, and of the advantage which would accrue from introducing frequent talks by men of experience in this field which should be attended not only by the upper classmen but as many of the students of the Department as possible.

Two specific recommendations were made:

*First:* That students in public health should be given opportunity to work during their vacations, either in industrial welfare or municipal health departments, and, if possible, that these positions should be made as awards of merit and industry, bearing with them some compensation, to be provided by the Corporation, in cases where the industry or municipality was unable to make payment for services. This would help pay the students' living expenses.

*Second:* That a research laboratory be established to study the varied and rapidly increasing problems of industrial hazards, — industrial poisons, effects of bad ventilation, elimination of dusts and fumes, and other conditions prejudicial to health. Practical examples of some of these hazards, which have recently troubled industry, are: dust from sand blast; lead poisoning due to the use of the paint gun; poison from tetraethyl lead, and other organic substances.

*Differences in Aims of Public Health Courses at M. I. T. and Elsewhere.* It may be worth while to point out the differences in aims and methods employed, between the Public Health course at the Institute and the more recently established schools for Public Health (aided by the Rockefeller Foundation) at Johns Hopkins University and Harvard University.

The object at the Institute is to train undergraduates, by the engineering method, to meet the practical problems that confront the general health administrator, the city health officer, the laboratory director, the sanitary inspector, the director of vital statistics, or the man responsible for the welfare of the workers in specific industries.

The newer schools are largely concerned with the training of graduate physicians, many of them brought from foreign countries, as research workers or specialists in the control of particular types of disease, as physiologists, or theoretical statisticians.

In the work of our Department in the public health aspects of food control and in public health education, both in research and in training of administrators, are fruitful fields of activity not cultivated in any other school or department of public health.

#### CONCLUSIONS OF VISITING COMMITTEE

*Close Coöperation of Chemical, Physical and Biological Departments Desirable.* In conclusion, your Committee commends the suggestion of President Stratton that every opportunity should be utilized for bringing about closer coöperation between the chemical, physical and biological departments.

Specific effort is urged:

*First:* To develop more intimate contact between the general student body and industry, through talks or lectures by representatives of industry — possibly by instituting regular noon-day meetings.

*Second:* To present effectively, to the freshmen at the Institute, the opportunity to enter the industrial field through the door of the Department of Biology.

*Third:* To broaden the opportunity of students within the Biological Department to gain practical experience in the administration of industrial and public health departments during their summer vacations, or at such other time as can be arranged.

*Fourth:* To develop further the opportunity for research within the Department, in different lines of industry, and make available funds to this end. Probably in no way can there be drawn into the Department more effectively, men with promising minds; nor can the reputation of the Institute, as well as of the Department, be fostered better, than by a number of research associates and part time assistants, working in the field of bacteriology, bio-chemistry and bio-physics, industrial biology, public health administration and education, industrial hygiene, parasitology, and histology.

LEONARD METCALF, '92  
FRANCIS H. WILLIAMS, '73  
DESMOND FITZGERALD



## ❧ *Tech Men in the Public Eye* ❧

*Alfred P. Sloan, Jr., '95*

When need of leadership arises, the man capable of leadership usually appears to take the job. This is an outstanding fact in history, all down through the ages from Moses to Mussolini, and it is as true in this age of industrialism as it ever was in the past.

Let it be understood, too, that modern industry requires leaders capable, tactful and resourceful as did the armies of Caesar or Napoleon. Our vast manufacturing plants are operated on the fickle laws of supply and demand. But no dividends are produced in idle plants; factories must be kept running to avoid receiverships, and markets must be found for their products, even in the face of indifferent public demand. Money must be available to pay the workers. Raw material must be marshalled to feed the machinery. Salesmen must be trained to dispose of the output.

When a single industrial organization embraces plants and sales organizations in every corner of the globe, such as General Motors Corporation, with its volume of business running close to \$600,000,000 a year, the field from which a leader may be selected is limited, to say the least. It requires a general of exceptional acumen to guide the destinies of an organization such as this. His qualifications must be both varied and unique. Two years of leadership — two of the most difficult years for the industry — have demonstrated the fitness of Alfred P. Sloan, Jr., for the task.

An outline of what Mr. Sloan does in General Motors leads naturally to two questions: How does he do it? and, How did he equip himself to do it?

The first question Mr. Sloan answers himself:

"I never give orders. I sell my ideas to my associates if I can; I accept their judgment when they convince me, as they frequently do, that I am wrong. None of us is infallible. I prefer to appeal to the intelligence of a man rather than attempt to exercise authority over him.

"Before I reach a decision of importance I consult everybody who can possibly contribute to it, analyze their suggestions, formulate a tentative solution, and then invite the criticisms of my associates. Usually when all angles of a question are before one the solution comes automatically."

The answer to the second question spreads over a period of fifty years, back to May 23, 1875, when Alfred P., Jr., was ushered into the world as the son of Mr. and Mrs. Alfred P. Sloan, at New Haven, Conn. Up to a certain point his life was not unlike that of the average American boy. He chose engineering for a career and was graduated from the Massachusetts Institute of Technology, with the degree of Bachelor of Science, in 1895.

At about the same time his father was induced to become associated with the Hyatt Roller Bearing Company at Newark, N. J. The son was installed there as a draftsman. Almost immediately it was discovered that the business was badly in need of a stimulant. The gross sales for the first month after the advent of the Sloans were \$2,000. Alfred P., Jr., took charge of operations, and to his technical training was added financial experience. In six months the company was operating at a profit, and it never reverted to red ink balances.

When the automobile business started, President Alfred P. Sloan, Jr., of the Hyatt Roller Bearing Company



ALFRED P. SLOAN, JR., '95  
*President of General Motors Corporation and subject of a  
biographical sketch here reprinted*

turned his factory to the making of bearings for automobiles, and kept everlastingly at it.

In 1916, when United Motors was organized, the Hyatt Company became part of it, and Alfred P. Sloan, Jr., was made president of United Motors. Two years later, United Motors was absorbed by General Motors and, becoming a vice-president of General Motors, Mr. Sloan was placed in charge of nearly a dozen accessory companies.

Late in 1920, Mr. Pierre S. duPont, M.I.T. '90, took the presidency of General Motors, until a new president could be selected, and guided it through a most distressing period. As Vice-President, Mr. Sloan was given the responsibility of directing the operations of the corporation, following general directions laid down by the Executive Committee.

To Mr. Sloan as Vice-President, Mr. duPont attributed the greater part of the successful development of these operations and the building up of a strong manufacturing and sales organization, and it was only natural that when Pierre S. duPont wanted to retire from the presidency of General Motors, in May, 1923, the directors of the corporation should select Mr. Sloan as the ideal executive to fill this most important position in the automotive industry.

Under his supervision, directly or indirectly, are employed more men than were in either army engaged in the battle of Gettysburg. The automobiles these thousands of workers build annually would transport the entire American Expeditionary Forces. The company's assets total \$592,570,000. Net sales in 1924 amounted to \$568,000,000. Net earnings for the year, after federal taxes, were \$45,330,000. Payrolls supply wages and salaries to from 73,000 to 91,000 employees, and dividends are distributed among 66,000 stockholders. Last year its 15,000 dealers sold 657,000 General Motors cars to the public.

General Motors has 59 large manufacturing and assembling plants, located in 35 cities in the United States, Canada and five other countries. In addition to its five complete lines of passenger cars, carrying out its policy to build a car for every purse and purpose, it manufactures a complete line of trucks, and most of the important parts and accessories that enter into the construction of an automobile.

One of its accessory plants supplies bearings for more than 150 miscellaneous types of machinery and equipment; another furnishes the bicycle trade with bearings, bells, coaster brakes and hubs. Its warning signals perform service in fire departments, factories, mills, mines, warehouses and schools, and on railroads and farms. Its steel and cast-iron products are sold to scores of industries in no way related to the automobile business. One of its factories is devoted exclusively to the manufacture of electrical refrigerators; another builds lighting plants and power equipment for farms and homes.

General Motors owns the largest radiator factory in the world; it owns and operates the largest office building of its type in the world. It supplies credit accommodations to its dealers and customers through its own financing corporation, and writes fire, theft, accident and conversion insurance, through a subsidiary

of the financing corporation, to those of its dealers and customers desiring this service.

It maintains a savings and investment fund for its employees, sells on a liberal time payment basis, distributes among employees bonus awards amounting into millions of dollars, and builds and sells homes to its workers.

From this brief résumé may be gathered an idea of the scope of General Motors' activities, and how thoroughly well equipped must be the leader to direct these activities along channels serving the best interests of those who invest in its securities.

Under Mr. Sloan, General Motors, previously a collection of independent units, has been brought into one vast piece of coördinated machinery, with all its plants closely interrelated and all the personnel brought into one great family.

Mr. Sloan so arranges his working schedule as to spend half his time in the plants, among factory and sales executives, and out in the field with the selling organization.

Out of this latter policy has come one of the greatest reforms experienced in the motor car industry, and the major share of the credit is due the General Motors' leader. Dealers and distributors, heretofore compelled to accept the manufacturers' product as produced, sometimes to a point beyond public absorption, now report sales regularly to the factory, and production schedules are constantly under revision, at no time being permitted to exceed actual demand. In this, other manufacturers have followed the lead of General Motors, with the result that over-stocking of dealers is now a bugaboo of the past.

Thus it will be seen that, though among the youngest of automotive executives, Mr. Sloan has been closely identified with the industry from its very beginning.

Incidentally, it might be added in closing that in addition to serving as president of General Motors, Mr. Sloan is a director of E. I. duPont de Nemours & Company, and a director of the Chase National Bank.

— *The Industrial Digest.*

### *Edward W. Hyde, '89*

One of the most prominent figures in the shipbuilding industry of New England, now retired, first went to work after completing his scientific education at the Massachusetts Institute of Technology as a storekeeper for the Bath Iron Works. He was twenty-four years old.

But in six years he had streaked his way into the presidency of the business, a post which he held for about five years, while also acting as Treasurer for the Hyde Windlass Company.

Nor did he confine his activity to the shipbuilding and allied industries. For six years he served as the President of the First National Bank of Bath, and for two years he was mayor of the city. He also served a term in the Maine House of Representatives.

He was also active in the incorporation and promotion of the Bath Trust Company, of which he became the first vice-president.

Edward W. Hyde is his name.

— *Baltimore American.*



# News from the Alumni Clubs

## *Indiana Association of the M. I. T.*

**A**FTER an all-summer vacation, the Indiana Association met at the University Club, Indianapolis, on November 20. We expect to continue monthly meetings, holding them on the third Friday of the month. Our Club is anxious to have any Technology men in this vicinity, permanently or transiently, let us know of their presence. Our city is not so large but that we can get quick action to extend en masse the welcoming hand.

Fifteen of the fellows reported last Friday. We had representation from the Classes of '81, '86, '88, '96, '99, '03, '05, '15, '19, '20, '23, and '24. The President being absent on account of illness, the Secretary had the honor of presiding. He gave an account of the All-Technology Reunion last summer and of the doings at the Banquet and the Pops; and he did not forget the ramifications over Georges' Island and the performances of Mr. Zizziter. Next Dennie's remembrances were read from a friendly little note which he had sent acknowledging his notice of the meeting. This naturally led into a discussion of Alumni affairs with the result that the Secretary was instructed to write the Executive Secretary. Perhaps the suggestions may bear fruit, and all may be let in on them later. For the present: well, nuf ced.

Lafayette had a contingent with us and at universal command, W. P. Turner, '86, S. M. A., gave us some of his famous harmonica selections. Maybe you didn't know that there was any Grand Opera in the "dum old French harp." Well, there is, and Deacon Turner knows the how of getting it out — tremulos and all.

A. A. Potter, '03, Dean of the Schools of Engineering at Purdue University, Lafayette, Indiana, discussed tendencies in engineering education in this country and in Europe. Dr. Potter as President of the Society for the Promotion of Engineering Education has been in close contact with the investigation of engineering education which has been carried on during the past year by this Society under a grant by the Carnegie Foundation. The following statements were included in his address:

"In this country about one hundred twenty-five institutions are giving undergraduate engineering instruction to about 55,000 students. The curricula of these institutions contrary to the general impression are not specialized and afford the engineering student a cultural foundation which is not inferior to those acquired by students who are preparing for the legal or medical profession. The professional training in the engineering college is shorter than the corresponding training of the lawyer or of the physician as it is difficult to foretell the requirements which will confront the engineering graduate in practice.

"The European student entering the engineering school is better prepared than is the American student. He has a broader culture and a better knowledge of mathematics, but lacks the ability of our own students to use tools and to think in the concrete. The better secondary preparation of the European student disposes of the need for the inclusion of cultural or academic subjects in the engineering curricula, makes possible more advanced and thorough technical training, and the engineering student can be assigned to problems and projects of real professional magnitude. However, while the European engineers are more capable in solving problems requiring high grade scientific knowledge the graduates of American engineering schools are more practical, have more initiative and outrank the European engineers in matters requiring leadership, inventive talent, large organization and coöperation."

Dean Potter in conclusion stated that engineering education in Germany has been passing through an immense expansion during the past few years and the enrollment in mechanical and electrical engineering has increased about 300 per cent during the past ten years. Since Germany cannot use all of her own engineers the other countries will have her as a competitor not only in the products of industry but also in engineering talent.

J. LLOYD WAYNE, 3d, '96, *Secretary*,  
Indiana Bell Telephone Company,  
New York and Meridian Sts., Indianapolis, Ind.

## *New Haven County Technology Association*

The annual meeting of the New Haven County Technology Association was held Saturday, November 14. The chief attraction was Dennie and his Xerxes Y. Zizziter films.

After a rather sumptuous dinner at the Winchester Clubhouse in New Haven, during which the reason why Yale did not beat Princeton was discussed and settled, the election of the following officers to serve for the next year was announced: W. H. Whitcomb, '03, President; Herbert R. Polleys, '18, Vice-President; G. V. Maconi, '15, Treasurer; Forrest G. Purinton, '15, Secretary; R. L. Parsell, '14, to serve with the above officers on the Board of Governors. Chester D. Dunlap, '10, past President, and the man behind many of the activities of the New Haven Technology Club in the past, was elected honorary member in consideration of the inestimable service he has rendered the Club. Chester has accepted an offer from a concern in New York state and is about to leave New Haven.

Dennie entertained us in many ways but especially with his songs. His Wop song nearly broke up the meeting.

Then the Zizziter films, which Dennie had brought with him, were shown and revealed to those of us who had attended the Reunion last June how much escaped us. The moving pictures were intensely exciting and the films themselves parted several times under the tension which prevailed in the hall. Of course Dennie disclaimed all responsibility and passed the buck back to somebody in Cambridge.

After the films were shown, a bowling tournament was indulged in, the outcome of which was doubtful and cannot be reported.

FORREST G. PURINTON, '15, *Secretary*,  
10 Murray St., Waterbury, Conn.

## *Washington Society of the M. I. T.*

The regular monthly luncheon of the Washington Alumni of Technology was held at the University Club on Friday, November 13. An interesting descriptive address was given by Mr. William E. Parker, on the work of surveying the coast line of the Philippine Islands, which in extent is comparable to the length of the coast line of the eastern United States. He also described the results of determination of the exact position of the principal geographic points, and the method of adjustment of the separately mapped areas.

These monthly luncheons are highly successful in bringing the Technology men together. Experience shows, however, that it is almost impossible to get an attendance at the weekly luncheon, because relatively few of the men can take the time at noon, except for special occasions.

Allen B. McDaniel, '01, of the firm of Newell, Corse and McDaniel, has been in Chicago in connection with the development of plans and construction of the large temple being built at Wilmette by the National Spiritual Assembly.

W. MALCOLM CORSE, '09, *Secretary*,  
706 Otis Bldg., Washington, D. C.

## *M. I. T. Association of Buffalo*

Awake and asleep, Buffalo is talking Tech Show. Since the night of November 12, when it was decided to put on the Show, the various committees have been quietly but earnestly working under cover. But with the holidays over and the New Year ushered in, the publicity starts with a bang, and efforts will be redoubled to sell Technology to Buffalo.

The net earnings from the Show will be placed in a Scholarship Fund to assist men from this vicinity through their freshman year at the Institute. We again ask every man in western New York and Pennsylvania to lend his moral and financial support to this worthy cause. The Show must go over, and it must go over big.

We request that every Technology man who is not in this locality, but whose parents are, to advise us of his parents' name and address, that they too may share in the good work of starting some one's else son on the way to enjoy the advantages which their own son has had.

Besides, the ladies are active. We want your mother to meet the wives of the local men at their bridge parties and teas. Let's go, Tech Show, February 3.

The real Technology spirit was displayed on the night of November 12 when Paul Anderson, '21, and Daniel Gurney, '25, drove seventy miles from Jamestown to Buffalo through a severe storm to attend the dinner. After dinner they drove back to Jamestown. Niagara Falls. Laugh that off.

We like Denison's scheme of allotting territory to the various M. I. T. Associations. It encourages the study of local geography on the part of the secretaries. Our territory embraces the counties of Erie, Chautauqua, Catteraugus, Allegany, Wyoming; and part of Stueben as far east as Canistota and Hornell; Genesee County as far east as Batavia; Orleans County as far east as Albion and north to the Erie Canal; Niagara County taking in Middleport, Lockport and North Tonawanda; and also taking in Bradford, Pa. Technology men in this territory, if not on our mailing list, make yourselves known, please.

Our geographical studies have caused us to wonder why there is no Association in Erie, Pa., to worry The Review Editors.

FLETCHER H. BURKE, '05, *Secretary*,  
581 Ellicott Square, Buffalo, N. Y.

### *The Technology Club of New Bedford*

The annual meeting of The Technology Club of New Bedford was held at the Wamsutta Club on the evening of November 4, and it was a great pleasure for us to have as our guests Professor Warren K. Lewis, '05, Head of the Department of Chemical Engineering, and Dennie, the most genial Secretary-Treasurer of our Alumni Association. President Stetson presided and introduced the novelty of a "President's Address" in which he outlined the happenings in our Club during the past year, particularly referring to the election of two of our members to Institute and Alumni positions, viz. Andrew G. Pierce, '85, to be a term member of the Corporation of the Institute and Charles F. Wing, Jr., '98, to be representative-at-large on the Alumni Council. An election of our officers for the ensuing year resulted in the choice of Thomas G. Jewett, Jr., '16, as President; Clayton P. Hawes, '16, member of the Executive Committee; and Rev. George C. Gibbs, '00, New Bedford's representative on the Alumni Council.

Following our business meeting a real treat was given to us by Professor Lewis, who, in a most interesting and entertaining manner, told us about the School of Chemical Engineering Practice and supplemented his talk with two reels of movies showing the students receiving practical instruction in various chemical plants.

Our evening's entertainment would not have been complete without Dennie's repertoire of songs, so we called upon him to favor us with some of his favorite selections and we were all delighted to hear them. Dennie then gave a short talk on the Institute and alumni affairs.

IRA M. CHASE, JR., '98, *Secretary*,  
131 Bedford St., New Bedford, Mass.

### *M. I. T. Alumni Association of Cleveland*

On Saturday, September 26, the annual Cleveland-Akron Technology golf tournament took place at the Portage Club at Akron, Ohio. The four men representing the Cleveland team were Philip L. Small, '15, Captain, William Salisbury, '11, Henry R. Hatch, '21, and A. I. Bradley, '21. An eighteen-hole match was played in which the Cleveland team succeeded in coming out ahead. The players then joined the rest of the crowd at the C. W. Seiberling estate where a baseball game was played in the afternoon and a picnic supper was served in the evening. After supper we all sat around and sang songs led by our President, Henry Howard, '89.

We are pleased to welcome a number of new men to Cleveland this year. Charles W. Cristal, '23, is with the Cleveland Union Terminals Company; William C. Salisbury, '11, is with the Hart Crouse Boiler Company; Larry B. Davis, '22, is with the Cities Service Oil Company; Douglas B. Martin, '25, and Harold V. Sturtevant, '18, are in the sales department of the Sullivan Machinery Company, working out of the Cleveland office.

Several of our members have been in the public eye the last few weeks. Morse W. Rew, '09, has just been made superintendent of the new motor bus division of the Cleveland Railway Company. Howard W. Green, '16, and A. D. Hatfield, '96, have been quite active with the Cleveland Community Fund Campaign.

A. ILSLEY BRADLEY, '21, *Secretary*,  
1010 Oregon Ave., Cleveland, Ohio.

### *Technology Club of Rhode Island*

The first meeting of the Technology Club of Rhode Island for the current year was held at the Wannamoisett Country Club on October 21. Nine members participated in a golf match, starting at 2:30 in the afternoon. Four balls were contributed to the pond from the first tee. The match was finished by moonlight. Before starting, each one selected his own handicap with the understanding that he was to be fined one stroke for each stroke under par for the gross. Norris Abbott had the best gross and Howard C. Fisher won the net prize. Dinner was served at 6:30 with fourteen members present, including Ralph Thurston from Putnam, Conn., and Dennie. Dennie gave a short talk, touching on the Alumni Association, registration, group insurance, the Endowment Fund, the Corporation and the Alumni Council. He also proved himself more or less of a poet.

The next meeting of the Club will be the Annual Bowling Tournament and will probably be held at the T. K. Club in Pawtucket, sometime in January.

L. E. KNOWLTON, '16, *Secretary*,  
Providence Gas Co., Providence, R. I.

### *Technology Club of Philadelphia*

Although the Assistant Secretary of the Club has neglected his duty for the past two months in not sending in the notes to The Review, the Technology Club of Philadelphia still remains one of the most active societies in the Quaker City. This is not intended to cast reflections upon our great city, but we shall try to show you how very active the Club has been.

The first reason for this activity has been the weekly luncheon held on Thursdays at 12:30 p. m. in Wanamaker's Tea Room. All who attend these luncheons regularly consider them a stimulant for the week's work. Those who are "traveling men" make an effort to attend every other week. The transients who happen to be in the city on Thursdays are always welcome and we urge them to be with us. Any who have attended will vouch for the time thus spent. At these luncheons the problems of the nation are discussed and a solution is suggested.

The other reason for our name being in the spotlight is the monthly meetings which have been held. The last notes appeared in the July issue, but did not mention the Club picnic held late in June at St. Luke's School, Wayne, Pa. This was one of the most successful picnics the Club has had.

There were no meetings held in July, August and September, but in October activity was again in evidence. One evening — Wednesday, October 7 — a banquet was held at the Adelphia Hotel. Fifty members were present. After dinner our President, Jerome G. Harrison, '06, explained to us the object of the Technology Club of Philadelphia. Four acts of vaudeville were procured for the evening by John Sallaway, '22, and they added a little spice to the occasion. As a grand finale a game of Beaver was started and led by A. H. Kinghorn, '20. The proceeds were turned over to the Treasury.

The next meeting was held at the Engineers Club on Tuesday, November 3. From the standpoint of attendance this was one of the largest meetings in the history of the Club. The attraction on this occasion was Captain Anton Heinen, formerly associated with the Zeppelin Company of Germany, and one of the constructors of the Shenandoah. Captain Heinen presented a most interesting talk, some of the more important statements being that the rigid airship was the safest form of transportation and in another generation a line will be established between Chicago and Buenos Aires; the time required for the trip would be three days. He further stated that the airship would be able to operate according to schedule with more accuracy than either the railways or steamship lines. Captain Heinen also gave his version of the Shenandoah disaster.

The next meeting will be held sometime in the middle of December. The exact date and program have not yet been decided upon.

We wish to congratulate J. Lloyd Wayne of the Indianapolis Association on the interest he is taking in the student body. All our members look upon the plan favorably and have decided to act. On either December 29 or 30 a luncheon will be held for the Technology students who live in Greater Philadelphia. We hope that all will be present.

We cannot write about any of the aforementioned activities without giving credit to our President, Jerome G. Harrison, '06. He has worked hard for the Club and is as loyal to the Institute as any one could be. Much credit for our success is due to him.

H. ARTHUR GROSSCUP, '20, *Corresponding Secretary*,  
Fifth and Race Sts., Philadelphia, Pa.



# News from the Classes

*News from even-numbered Classes is published in issues dated November, January, March and May. News from odd-numbered Classes is published in issues dated December, February, April and July. The only exceptions to this rule are those Classes whose Secretaries have guaranteed the appearance of notes in every issue. These Classes are: 1895, 1896, 1900, 1901, 1902, 1905, 1907 and 1910 to 1925 inclusive. Other Classes adhere to the alternate schedule. Due to necessary limitation of space, The Review is unable to publish lists of address changes of members of the Association. The Alumni Office, in Room 3-209 M. I. T., will supply a requested address or will act as the forwarding agent for any letters addressed to members of the Association in its care.*

**'74** With the exception of the very enjoyable Jambouree Dinner at Mechanics Building on June 11 (which was attended by Barrus, Chase, Doane, and Nickerson) there has been little of interest to report since the news published in the May issue of *The Review*, until October 27, when a class luncheon for local members was given at the Copley Plaza Hotel. This was a memorable occasion for those attending. It was a complimentary luncheon in honor of Brown and Nickerson, who have both extended many past courtesies to the members. It was especially interesting because the ladies were invited, and both Mrs. Brown and Mrs. Nickerson were present and shared their husbands' honors. Others in the party were Mr. and Mrs. Barrus, Mr. and Mrs. Read, and Mr. and Mrs. Russ; also Bouvé, Chase and G. T. Elliot. Letters were read from Leatherbee and G. B. Elliot, who were unable to be present.

The party was greatly entertained by Russ, who gave an interesting account of his recent trip around the world. He told of the places he visited, the people he saw in foreign lands, and the many events which attend such a trip, much of which he read from manuscript; and it is pleasant to note that his written story was expressed in very clever rhyme. Among other places, he visited Honolulu, and called on Classmate Emerson, who entertained him at his home. He lives in a beautiful residence, located on Emerson Street [named in his honor], a picture of which was exhibited. Emerson is now eighty-two years old, and he is one of the leading citizens of Honolulu.

Brown spoke of the improvements he had made in his grove at Hingham, where we have had so many enjoyable picnics in the past. Speaking for both Mrs. Brown and himself he extended a renewed invitation for the members of the Class and their ladies to have another reunion and picnic there next June. Nickerson referred to the Fiftieth Anniversary dinner given last summer by Dr. Stratton to the Class of '75 which he attended as a member of that Class, and facetiously spoke of the similar dinner a year before given to the Class of '74 which he also attended, and of a third dinner next summer to which Dr. Stratton has invited him along with the Class of '76. Nickerson has the distinction of being affiliated at the Institute with all of these classes, although '74 claims him first.

Chase told of meeting several of our men during the past summer on his western trips, notably Blunt in Chicago, and Holbrook, Jackson and Perkins in California. Bouvé indulged in reminiscences of school days which he delights to recall, especially certain events in the lecture room and drawing room which were indelibly fixed in every classmate's memory. Elliot spoke of the pleasure the luncheon had given him, and how much the presence of the ladies contributed to the enjoyment of the occasion. The Secretary referred briefly to the historical work he had been engaged upon in connection with the Institute records, and stated that he had been promised assistance in carrying forward its details, which was most welcome.

We regret to announce the death of Charles M. Shove, which occurred in Fall River, on November 10, 1925. Mr. Shove was prominently identified with the textile and banking interests of Fall River.

CHARLES FRENCH READ, *Secretary*,  
Old State House, Boston, Mass.

**'82** The papers of September 22 contained various notices of the sudden death of our classmate, James Deering. The following is taken from the *Transcript*: "A wireless to the Associated Press from the steamer *Paris* on which the French Debt Mission will reach New York tomorrow reports the death of James Deering, former Vice-President of the Inter-

national Harvester Company. Mr. Deering was accompanied by his secretary and a nurse.

"He had not been well for some time. He was sixty-six years old, born in Maine in 1859, a son of William and Clara Hamilton Deering. He was educated at Northwestern University and the Massachusetts Institute of Technology. He was an officer of the Deering Harvester Company, founded by his father, until 1902, when the business was merged with other leading harvester interests into the International Harvester Company, of which he became the Vice-President. He was later President of the International Harvester Company of New Jersey.

"Of recent years he had not been active in business and had made his home at Miami, Florida. There he owned one of the finest residences in America: Viscaya, a white palace containing seventy-two rooms, built in the Baroque style on Biscayne Bay. Estimates of the cost of Viscaya for which hundreds of rare objects were brought from all parts of the world, have run as high as \$10,000,000. He also had a home in Paris. In April, 1914, Mr. Deering gave \$1,000,000 to Wesley Hospital in Chicago, founded by his father. Mr. Deering was a member of the Saddle and Cycle, University and Chicago clubs."

Further information regarding Deering from the manager of his property states that, "By his will he left \$1,500,000 to charity; \$500,000 each to the Chicago Visiting Nurses Association, Chicago Children's Home, and Miami City Hospital (for a charity ward in memory of his father and mother)."

Frank Morrison Channing, born in Boston, died on October 9 at the age of 64, leaving a modest bequest to the Institute. Leaving Boston soon after graduation from Course I, he spent, aside from a few years in Illinois, Ohio and Indiana, the rest of his life in California. At the time of his death he was in the realty business in San Francisco. He had been in good health, was taken sick very suddenly and died in less than three days of heart trouble, reported to be angina pectoris. From his son, Russell E. Channing, also of San Francisco, it was learned that his mother died in 1911 and that he and his brother are the sole survivors of the family.

WALTER B. SNOW, *Secretary*,  
115 Russell Ave., Watertown, Mass.

**'84** The Secretary is reluctant to make his class news merely subjective, but "fortunate is the country that has no history." While this may, or may not, apply to the Class as a whole, it certainly corresponds with the amount of information received.

Last year's European experience proving not quite sufficient, the Secretary, with two members of his family and two friends, again toured France by automobile — this time with a Citroen car. The itinerary included Normandy, Brittany, Touraine, the Pyrenees, the Gorge of the Tarn, the vicinity of Grenoble, Geneva and Paris. A side trip in Switzerland gave opportunity for some mountain climbing. An interesting episode in Paris was the stirring address of the President of the Reichstag in German at the Sorbonne.

HARRY W. TYLER, *Secretary*,  
Room 2-261, M. I. T., Cambridge, Mass.

**'86** Three papers of more than passing interest from the pen of Dr. Alice G. Bryant, have come to the notice of the Secretary. One of these papers deals with the evil effects due to inadequate humidifying of the air of our houses in winter. Another deals with the causes and remedies for deafness, particularly in the young. The third paper calls attention to the

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injuries that may be caused by the unthinking use of electric lights. Dr. Bryant is doing yeoman work in attempting to make the "house beautiful" also a "house comfortable."

ARTHUR G. ROBBINS, *Secretary*,  
Room 1-270, M. I. T., Cambridge, Mass.

**'90** Atherton Loring and Mrs. Loring and son have taken an apartment for the winter at Alden Park Manor, Longwood.

We note that Charlie Hayden has recently been elected a director of the Remington Typewriter Company. We have lost track of the number of corporations in which Charlie is director; but certainly from now on there will be no excuse for his not being able to run a typewriter himself if he so desires.

The following account of the speech delivered by W. Z. Ripley at the annual meeting of the Academy of Political Science is taken from a newspaper clipping: "Predicting an extension of governmental supervision over the conduct of private as distinguished from quasi-public business because of fundamental post-war changes, which, he said, 'strike at the tap root of our present capitalistic system,' Professor W. Z. Ripley of Harvard University, at the annual meeting of the Academy of Political Science, suggested an enlargement of the scope of the Federal Trade Commission to protect millions of investors who, he declared, are helpless at the present time.

"He said the fundamental changes since the war have been 'the alarming divorce of the ownership of property, represented by securities emitted by corporations or trustees, from any direct accountability whatsoever for its prudent and efficient management' and 'the wide and ever accelerating diffusion of a considerable portion of this ownership, represented by stock holdings of employees and of the directly consuming public.'

"The net result of these changes, he said, 'is the assumption of an irresponsible control by intermediaries — most commonly bankers, so-called — in place of the former responsibility for direction which, theoretically at least, rested upon the shoulders of the actual owners.'

"Professor Ripley said that both these tendencies menace alike the welfare of the private owners and of the working classes, and added: 'They put the public interest in the sound and straightforward management of these businesses in jeopardy not because bankers as such are more frail than any other people in general but simply because the possession of uncontrolled power is always certain to entail abuse, whereby both innocent and guilty are alike dragged down.'

Mr. and Mrs. Darragh de Lancey returned from abroad in September. Their eldest daughter remained abroad for an extended trip, and Mr. and Mrs. de Lancey will probably join her on a Mediterranean trip in the spring. They will probably be at home in Waterbury, Conn., until sailing for the other side.

GEORGE L. GILMORE, *Secretary*,  
57 Hancock St., Lexington, Mass.

**'92** Up to date, November 25, I have received a number of replies to the letter of September 15 of varying import. Have you sent in your reply? I can't say that a negative answer is as satisfactory as a positive one, but some sort of reply from a majority will be something to base future action upon.

Here are a few extracts from those received. From H. M. Phillips: "There is nothing that I would like better than to take in a class meeting, but it does not look as if I would ever be able to go as far as Boston. What is the matter with Washington, for a meeting of the Class? If any of the boys have never been here it is time that they came. Perhaps they all have, in which case they ought to be glad to come again: it is a good city. Remember me to any of the boys that you see, and ask them what is the matter with a little private reunion any time they come down this way. They can find me in the phone directory, Columbia 8942 at night, or Naval Reserve Research Laboratory by day."

From Eugene E. Pettee: "I have been away from the office since April 16 and have had to have two nurses and four or five doctors. I suffered with antritis, plebitis and sciatica. I am happy to be out again and expect to be back to work soon."

The following extracts from a letter from Leonard Metcalf under date of November 11, I know will be read with much concern both by members of our Class and his numerous friends and associates. "I do not know how much I may have told you of my condition, but the fact is that I am going down hill slowly with cancer of the stomach, and it is probably only a question of a few months before I shall have relief

from bodily suffering. I had a bad hemorrhage seven or eight weeks ago; since then I have been confined to my bed, save that I am able to sit up for two or three hours a day to stretch my muscles."

JOHN W. HALL, *Secretary*,  
8 Hillside St., Roxbury, Mass.

**'94** No notes have been received by The Review Editors from the Secretaries of this Class for inclusion in the January issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to Samuel C. Prescott, Secretary, at Room 10-405, M. I. T., Cambridge, Mass.

**'95** Dear Classmates: Your Secretary has issued in the forthcoming mail a circular for your attention. It reminds you that we can only know about everyone's doings and whereabouts, if you will forward immediately information as to "changes in life and action," to L. K. Yoder, Ayer, Mass. Your interests will interest others.

The Review is our only medium of general contact and we should avail ourselves of this service. Get busy and let us get better acquainted with what each one is doing and thinking about. If you don't read The Review regularly, you should. If you have not subscribed for it, do so at once. Only 23.7% of our registered membership subscribe to this splendid magazine. Not enough! Get busy! Let me hear from you.

LUTHER K. YODER, *Secretary*,  
Chandler Machine Co., Ayer, Mass.

**'96** Since the last issue of The Review the Secretary has had two most welcome calls from classmates. On October 26 Wayne dropped in. He was on his vacation, which he had decided he could spend in no better way than in swinging around the East and calling upon various classmates. As usual he had a lot of news and in this respect he is really a keen competitor of The Review in dissemination of information. Three days later H. H. Tozier was on from Rochester, N. Y. His excuse was that he and Mrs. Tozier were celebrating their twenty-fifth wedding anniversary by an automobile trip. They had planned to spend only a day in Boston but they had found so many things to interest them that they had already been here three days. It was the first time that Tozier had had an opportunity to go all through the new Technology buildings. He mentioned his hard luck in being unable to attend previous class gatherings, because something unexpected had always come up at the last minute. However, he guarantees that if he is living next June he will be with us.

After a long period of silence Ernie Mead has come through with a two-page letter from San Francisco where he is handling the precision instruments of the Paulin system at their agency at 383 Mills Building in San Francisco, under the firm name of Navigator Instruments, Inc. He states that these instruments are so sensitive that they will show an absolute change of pressure between the top of the table and the floor. In fact, they will read as close as a difference of six inches in elevation. In spite of their extreme sensitiveness these instruments will stand the usual hard field usage without harm. To any classmate who is interested in the various forms of these devices for measuring altitudes and pressure, the Secretary would suggest getting in touch with Mead at the above address.

Frank Hersey reported under the date of November 10 that he was again a happy father, it being a little girl this time, with mother and child both doing well. Frank stated frankly that as long as he could not have had the honor of having the first '96 class baby he was going to see what he could do toward having the last one.

Dean H. S. Boardman, who is now also Acting President of the University of Maine, has written for the McGraw-Hill Company an account of the studies made at his University on Freshman Orientation. The University of Maine was one of the earliest schools to devote the first week of the year to the freshmen in order to give them the proper start in their work and to give them good contacts with all of the staff and student body. This plan has worked out extremely successfully.

In the last issue of The Review there appeared a cut of the Quincy Market and Faneuil Hall, credited to R. C. Henry, '97. Of course, all '96 men knew that this was an error as Henry has always been a member of our Class.

Through Con Young has been received the sad news of Charlie Stamp's misfortune. He sailed, with Mrs. Stamp and his daughter, on



## 1896 Continued

October 2 to give their daughter, just out of school, a year's travel in Great Britain and Europe. About two days from the other side Mrs. Stamp complained of difficult breathing and in less than an hour she had passed away. The body was brought back, arriving in New York on October 24, and Con met him at the dock to render any assistance he could. For the present Stamp is back at Wade Park Manor in Cleveland with his daughter until he can decide upon further plans.

Con also reported that he had a delightful trip up through New England during the summer, ending at his camp in the Adirondacks. On this trip he saw Bakenhus in Newport and Buster Crosby in Osterville for three days, and finally at Bethlehem, N. H., he came across Professor Bailey.

Harry Brown has been hard at work trying every possible expedient to secure the privilege of the Wianno Club again for our Reunion next June but has finally been obliged to report that the case appears hopeless and that absolutely no exception is to be made to the new rule of the Club that no outside organization shall have the privilege of the Club for gatherings. We all know that no one could have pleaded our cause better than Harry, especially as his efforts were ably seconded by Perl Underhill and that he did not give up until he had exhausted every possible resource. This means that while we will not be able to have the Wianno Club next June, we will pull off our Reunion just the same.

CHARLES E. LOCKE, *Secretary*,  
Room 8-109, M. I. T., Cambridge, Mass.  
JOHN A. ROCKWELL, *Assistant Secretary*,  
24 Garden St., Cambridge, Mass.

'98

No notes have been received by The Review Editors from the Secretary of this class for inclusion in the January issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to A. A. Blanchard, Secretary, at Room 4-160, M. I. T., Cambridge, Mass.

'00

Two years ago your Secretary made a reckless vow to put 1900 into the Eight-Issue Club. In other words, he made a perfectly good contract to supply news to these columns, not in every other issue, but in all eight issues of the year. 'Tis some contract. Possibly he was relying on some of you to help him but he occasionally finds, as at the present time, that everybody has been too busy to write about himself or the other fellow. At any rate, this particular number would be a flat tire if it hadn't been for the thoughtfulness and generosity of Louis Crowell. It happened this way. Louis is King of the Cranberry Isles — no, we don't mean that. We should have said he is the cranberry king of Cape Cod. Cranberries are just now holding an important place in one's affections (it is Thanksgiving week as this is being written), and remembering our interest in his industry when we visited the Cape last summer, Louis thoughtfully sent in a box of the best and biggest he could find. They were as big as crab apples and of the color of an ox-blood cherry; and when made up into real sauce had a flavor that has never been equaled. During the Reunion the writer tried to drag a few facts out of Louis regarding his operations during the past years, but he would have had better luck if he had gone out dragging quahaugs.

It seems that he (Louis) tackled engineering in the early days and was getting along swimmingly until some one wished several hundred acres of perfectly good cranberry bog on him. Then engineering began to take a back seat. It had to, else Dennis, East Dennis and the country roundabout would have had to take to the trees in order to escape the berries. From that time on Louis has thought, talked, slept and eaten nothing but cranberries. Not only does he grow them, but he lets other people do it and shows them how. He also has shown them how to sort, grade, ship and market the product. Besides, he is the originator of the celebrated Eatmore Cranberry Club which now extends all over our New England. He's the last word in cranberries — he's the cranberry king. Louis didn't supply these facts so he can't kick. But putting all fooling aside, if any of you fellows find yourself down on the Cape at any time, you'll be doing yourself a real favor if you look Crowell up and spend an hour with him. He's the same delightful chap you knew in 1900.

GEORGE E. RUSSELL, *Secretary*,  
Room 1-272, M. I. T., Cambridge, Mass.

'01

Today is Thanksgiving Day, which is a peculiarly appropriate time for your Secretary to prepare his class notes. In the first place, he has many things to be thankful for. Unmarried, a holiday does not entail a long period of stultifying domesticity. Then he has found some of the missing members of the Class; again, he has the prospect of the Twenty-Fifth Reunion ahead, and finally he is a member of the Class of 1901. With such a quiver full of blessings it would be an ingrate who failed to share in this time of rejoicing.

Whittemore, one of our architects and a member of the firm of Blackall, Clapp and Whittemore, sends in word that he is married, has two children, and adds the information, redundant in the light of the foregoing, that he is busy. Whittemore is lecturing at Harvard in the Department of Architecture. He is non-committal as to the Twenty-Fifth Reunion but this is probably due to a correctible inhibition arising from his long abstention from class contact.

J. E. Ober is Treasurer of the West Penn Steel Company in Brackenridge, Pa. Ober is a pure chemist — in contradistinction to the impurities inherent to Course X — but like all good chemists, pure or otherwise, he would seem to have prospered. He writes as follows: "For some years after graduating from Tech I received the Register of Former Students giving their addresses and occupations. It was always interesting to watch this Register from year to year and note the gradual or rapid progress of those members of the Class in whom one was most interested. It thus tended to keep one in touch with former classmates. The publication has long since ceased to reach me. However, it seems to me that if the data sheets which you will receive eventually were compiled alphabetically in some one number of The Review, say November (in time for some one to send me a Christmas card), it might prove of interest to a large number of the Class. As you received only forty-eight dues in 1924 it certainly would not take up too much space and it might tend to keep up interest in the Class. To know that forty-eight members of 1901 are still alive is something, but to know who they are and what they are doing [the allocation of the relatives is Ober's, not mine. A. W. R.] is a whole lot more satisfactory." Now I am wondering if this be a shrewd blow below the belt or a veiled tribute to my imagination. The items of palpitating interest which find their way into The Review under my signature are culled from these same data sheets. They are edited, it is true, but anyone remembering some of the members of the Class and sensing the high moral tone of this publication will realize at once that some blue penciling is necessary. Now I shall send Ober a Christmas card and I wish all you other fellows who read this would do the same. Furthermore, I think his suggestion concerning the Register of Former Students is worthy of official action and I shall try to arrange with the authorities at Technology to have sent to every man in the Class who pays his dues a copy of that interesting and reasonably though not meticulously accurate volume.

One Edward H. Davis familiarly known as Ted, erroneously designated by me as Neddy, thereby evoking a yelp of protest for which I feel there was some reason, writes from his P. O. Box 1217, at Waterbury, Conn., as follows: "About myself. I am afraid it is only 'same as before!' (This means statistician for the Scoville Manufacturing Company, and the proud possessor of the finest collection of corncob pipes this side of the Mason and Dixon line.) I don't know whether I have mentioned that I am disreputably fallen into a habit of giving public talks as an avocation. Gave my second High School commencement address this spring — there is a latent cruelty in all men and this is the form in which my personal caveman reappears. About other 1901 men. The only other classmate I ever hear from — let alone see — is A. W. R. [I pause for a moment to commiserate my friend on this, his sad case. Here would seem to be another worthy recipient of a Christmas card. I make the suggestion only.]

"The Reunion. Yes, have it. I will put off my own funeral to be present and that's saying a lot for I am partial to funerals, particularly my own. The dominant note of the Reunion should be just what the circular letter expresses, not a fool attempt to pretend we are twenty years old but an understanding effort to extract the quintessential virtues of being forty-five. I am sorry I can't help on the list of lost, strayed or stolen." The residual portion of this communication deals with matters of high finance, seemingly far beyond the ken of many of the other members of the Class. Now, I want you fellows to note that the brightest ornament of Course IX is pledged to appear at the Reunion, and furthermore, to give us the benefit of every one of his sunny, golden, forty-five years. I can raise the ante by one and

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there are some other members of the Class beside whom Ted and I will be mere children, but we shall go to make up a good average and that spells a sober, safe and sane celebration (I avoid the lure of alliteration at the expense of accuracy). I hope this thought will prove attractive to some of the few who have not as yet committed themselves.

After many years of silence and for a time, at least, included in the L. S. S. list, word has come through from Ralph Whitman, now a Commander in the U. S. Navy in the Corps of Civil Engineers and assigned to the Bureau of Yards and Docks in Washington. I give his letter verbatim, knowing it will interest every member of the Class.

"Commissioned officer, U. S. Navy. Present duty, at above address, design manager in administrative charge of designs and specifications for structures pertaining to the Navy's shore stations. This includes shop and institutional buildings (such as naval hospitals, barracks, training stations, and so forth), navy yard power plants, quay walls, wharves, piers, dry docks and marine railways, floating derricks, shore derricks and cranes, locomotive cranes, pavements, water supply and sewerage, dredging, coaling plants and fuel oil installations, and so forth. Total value about \$4,000,000 per year.

"I have neglected furnishing information of myself for some few years. From April 1917 to May 1920 I was aide on staff of U. S. Military Governor of Santo Domingo, assisting in the administration of the government of the Dominican Republic. This included service, from April 1919 to April 1920, as one of the five members composing the Dominican Claims Commission, an international commission (Dominican-American) created to adjudicate foreign and domestic claims against former Dominican governments. From 1920 to 1922 I was in charge of construction of the U. S. Naval Ordnance Plant, South Charleston, West Virginia (\$20,000,000). This was begun during the War. R. E. Bakehnus, '96, R. H. Stearns of our Class, R. M. Friebus, '15, had been prominently connected with it earlier. From July 1922 to June 1923 I was under instruction at the Naval War College, Newport, receiving diploma for the course upon completing it. The subjects in the curriculum included naval strategy, tactics and logistics, a brief dip into national policy, and some situations in international law as touching the Navy in connection with the Washington Conference Treaties. I came to the Navy Department for duty in June 1923, concentrating for a year and a half on waterfront structures and the administration of certain public works contracts; also representing the Navy Department on an Interdepartmental Board for the Administration of Public Lands. This was mainly in connection with a national survey of Federal Lands ordered by the President. This work is still going on. I have additional duty as representative of the Bureau of Yards and Docks on the Post-Graduate Council of the U. S. Naval Academy, which has to do with the arrangement of courses in the Naval Academy Post-Graduate School, and with the arrangement of further courses at various universities and colleges, for the special instruction of young naval officers in engineering and ordnance fields. I have served on one or two boards for the examination of prospective and present naval officers for first commissions and for advancement in rank, and have taken a small part (on the engineering side of things) in the effort to unscramble the difficulties surrounding the construction of oil storage facilities at Pearl Harbor (Hawaii) Naval Station under contract with the Pan-American Petroleum and Transport Company, known in the newspapers of late as the Doheny Company.

"I return with this your sheet of addresses wanted, with the address of C. L. B. Anderson noted. Anderson served as a reserve officer in the Corps of Civil Engineers, U. S. Navy, during the War, and accepted a permanent commission in the regular establishment in 1921. From 1921 to 1923 he was stationed in Haiti, being transferred from there to the Norfolk Navy Yard where he is now.

"This is a pretty long story. While I have contributed little to the class notes in the past, I have read them always with interest, and send in the present report of myself more in the hope that it may stimulate others to tell their story than in the thought of mine being of much interest to them. Mixed with this is a feeling of sympathy for you in your endeavor to collect news. Appreciating your feelings for those restricted to the confines of a post office box—as you have expressed it from time to time—I take it that you will rejoice that one of us at least is domiciled in a bureau, albeit a small part of one."

ALLAN WINTER ROWE, *Secretary*,  
4 Newbury St., Boston, Mass.  
V. F. HOLMES, *Assistant Secretary*,  
131 State St., Boston, Mass.

'02 Very little news has come through to the Secretary since the notes for the last Review went to press.

Bill Kellogg has moved his Lares and Penates to New York, where he has established his home at 49 East 92nd Street. This does not mean any particular change in Bill's work, but Stone and Webster have kept him in New York so much of the time that the new arrangement will give him a chance to get acquainted with his family after his prolonged absences from Boston the last few years.

Carlton B. Allen, Jr., entered the Institute this fall. Are there any other sons of '02 who are thus following in their fathers' footsteps?

Mendenhall reports from Salt Lake City that Professor Clifford, with his wife and daughter, spent a few days there in September, and that they had a pleasant visit. He reports some very enjoyable rounds of golf with the Professor, and while he does not say who won, we suspect that the former student did not have the worst of the argument with his one-time Professor.

FREDERICK H. HUNTER, *Secretary*,  
Box 11, West Roxbury, Mass.  
BURTON G. PHILBRICK, *Assistant Secretary*,  
276 Stuart St., Boston, Mass.

'04 This is the season of the year when holiday greetings are in order. The Secretary wishes it understood that at 9:00 a.m. on the morning of December 25, 1925, he projects into the ether a certain number of mental emanations which are intended to express to all his classmates his best wishes for a very merry Christmas day. If any of these emanations be not received, let it not be ascribed to weakness on the part of the Secretary's mental apparatus which he considers to be fully as effective as it ever was. Classmates may have their own opinion on this subject. Failure to receive these emanations may be laid to poor receiving stations or some kind of static disturbances in the ether which render their reception impossible.

It is a source of great satisfaction to the Secretary that there are members of the Class who occasionally perform deeds of sufficient importance, or otherwise attain distinction of which the public press takes notice. Some of these press notices come to the attention of the Secretary and he is very glad to publish in his section of *The Review* the records of the success of members of this great Class of ours.

The September 11 issue of the *New Bedford Mercury* included a very interesting account of the work of Marian G. Coffin. This account, which is headed "Pioneer Woman Landscape Architect," is given here in part:

"Marian G. Coffin, one of the country's leading landscape architects, was too delicate when a girl even to go to school. . . . After years of study, travel and hard work she became a Fellow of the American Society of Landscape Architects, and is today distinguished as the architect of some of the finest American country estates.

"It is really a single-handed achievement in a profession in which, for women, Marian Coffin has been a pioneer. In reaching the top she did more than overcome ill health. She succeeded in entering the Massachusetts Institute of Technology to find herself the only woman student among an army of serious, technically-minded men.

"She sailed abroad to study the famous estates of the Old World and then established herself in New York where she began at the very bottom by planning little gardens and flower beds. There she remained until the opportunities for larger works put in an appearance.

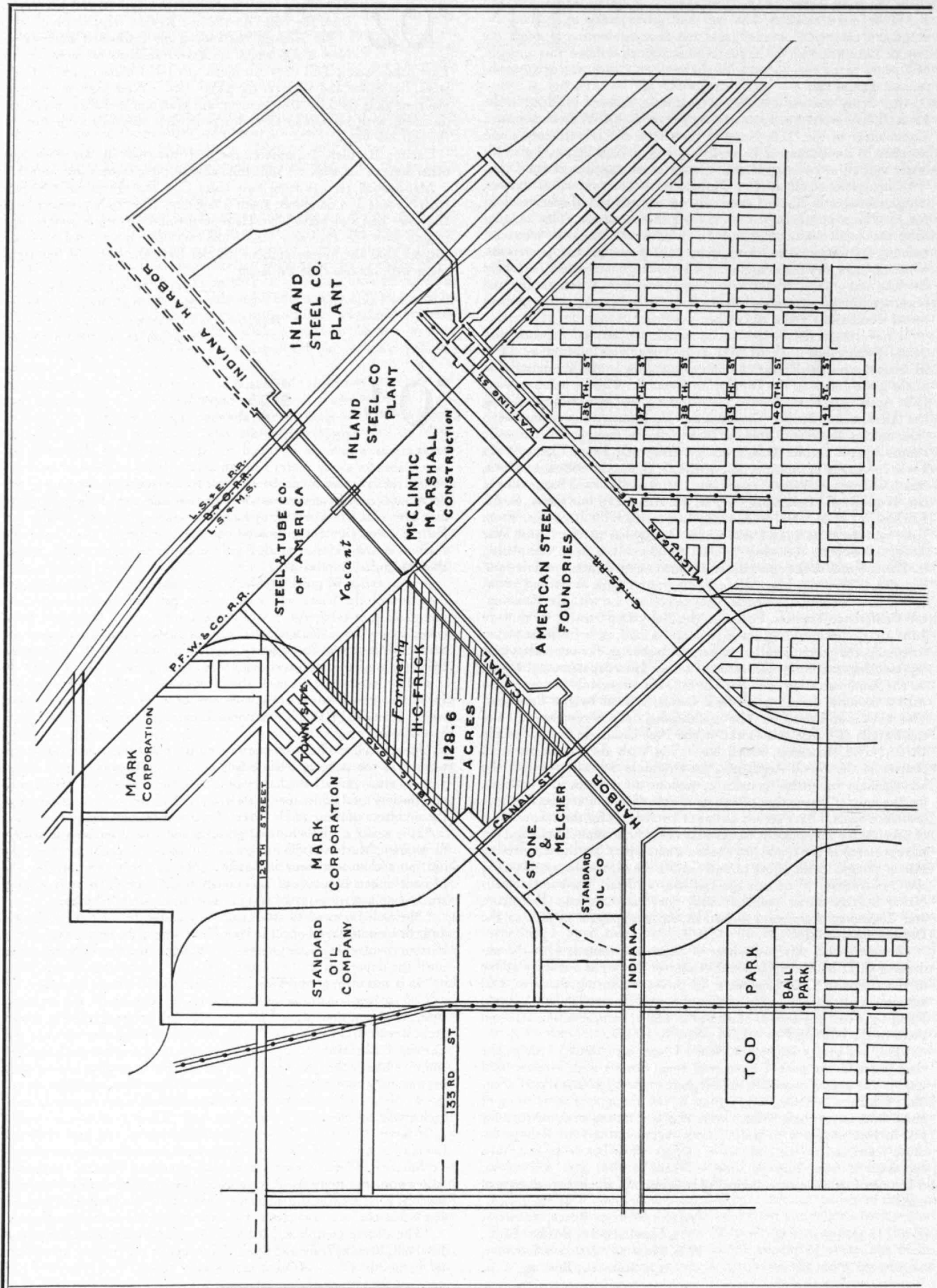
"It is not strange, perhaps, that Miss Coffin should have felt the call of an heroic form of artistic expression like landscape architecture, for Johnathan Trumbull, the colonial painter, was her great-uncle. And Benjamin Church, one of the engineers who laid out Central Park, Manhattan, was her uncle. In her own work she has combined both the qualities of the artist and the engineer in creating beauties of grounds, gardens, and landscape settings and thus carved out for herself a distinctive place in a profession once occupied almost exclusively by men.

"Marian Coffin is a New Yorker. She wanted the best technical foundation obtainable for her chosen work, and therefore enrolled at Technology, where women up to that time had not ventured. Her fellow students there were 500 males. There was seldom a classroom session, Miss Coffin said with a twinkle, that the instructor did not single out the only girl student for the answer to some question.

"The course completed, Miss Coffin studied famous examples in England, France, Italy and Spain. Then began the turning to account

(Continued on page 166)





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1904 Continued

of this long period of training. . . . Miss Coffin is now at work on plans for the grounds of the Delaware State College at Newark, Delaware. . . ."

The writer of the article is slightly inaccurate in the statement that Miss Coffin was the only girl in the Class as the Secretary distinctly remembers many others.

Professor Locke has forwarded an article which shows that another member of our Class has contributed to the efficiency of a great industry. The article reads as follows: "A recent report which has come to me regarding Paul M. Paine states that he is a co-partner in a new company which has a valuable electrical device to determine exactly where water may be finding its way into an oil well. The importance of such a device may be appreciated from the fact that such water must be carefully located and sealed off from an oil well in order to prevent the water from coming and mixing with the oil, thus lowering its value. The company operates on a service basis and has its own men who travel around the oil fields and apply the apparatus in the tests so that all that the oil operators have to do is to seal off the water after it has been located by Paine's experts."

If the above accounts relating the ability of two of our classmates should awaken some of the readers of these notes to a desire to have their own achievements mentioned therein, the Secretary will be very glad to receive information which will enable him to see that their talents are properly recognized.

In closing these notes, the Secretary wishes to extend to all his classmates his best wishes for a very prosperous and Happy New Year.

HENRY W. STEVENS, *Secretary*,  
12 Garrison St., Chestnut Hill, Mass.  
AMASA M. HOLCOMBE, *Assistant Secretary*,  
3305 18th St., N. W., Washington, D. C.

'05 Sid Strickland has moved his gothic architectural trimmings from the mediæval building in Pemberton Square, hard by police headquarters, and is now doing business amid modern surroundings at 20 Newbury Street. Every successive letter from Sid bears the name of a new member of the firm, six now, which shows that business is booming. He writes: "The ordeal is over and we have finally shaken the dust of Pemberton Square from our feet and are now established at 20 Newbury Street. The second day that I rounded the corner of Arlington Street on my way to the office, who should block my passage but Jim Barnes. Jim and his wife had motored on with the Class Boy to enter him in college and were just at that moment making ready to depart for Atlantic City. Jim tried to make light of the necessity of traveling to Atlantic City and assured me that it was a great bore making such a detour. Be that as it may, it only goes to show how some of us arrive at the soft spots of life. Notice how I side-stepped the mention of Harvard, which the Class Baby is attending."

Lovell Parker writes on the stationery of the United States Senate, James Couzens, Michigan: "For the past year I have been with the Senate Committee Investigating the Bureau of Internal Revenue. This may strike you as rather strange, but as a matter of fact, there are a great many questions involving engineering in connection with our administration of income tax laws.

"Among the subjects which our Engineering Staff handles are the

following: 1. Valuations of all natural resources, such as metals, non-metals, coal, timber, oil and gas. These valuations are required not only as at present date, but retrospectively as of almost any basic date in the past. 2. Depletion allowances. 3. Valuations of plant, real estate and physical assets. 4. Depreciation allowances. 5. Amortization allowances based on loss in value of facilities contributing to the prosecution of the World War. 6. Allowances for obsolescence.

"It can readily be seen from the above subjects that the opportunity for constructive work is considerable. Moreover, in order firmly to establish the various methods employed by the Bureau of Internal Revenue, we have been studying individual cases to a considerable extent. We hope that our work will be of some benefit to Congress in framing future Revenue Acts as well as to inform them as to how past Revenue Acts have been administered.

"In regard to personal matters, I might state that I was married in 1909, have a wife and three children, so that I am probably doing as well as the average of my classmates in increasing population. I am very sorry not to have been at the Reunion last spring, to meet some of the boys again." Ammunition for another tilt with the Secretary of the Treasury?

"Hi-a-leah is Miami's outlet for red-blooded excitement. Here are located the Miami Jockey Club, the Miami Kennel Club where greyhound races are held every evening except Sundays, the Curtiss Aviation Field, the Miami Amusement Park, the Municipal Golf Course and the Jai Alai Courts" which may account for the fact that Fred Andrews, who is located there, cannot find time to answer his mail.

Your Secretary and Grove Marcy attended the Alumni Council meeting in October and were amused by the movie of the "Fives and Wives" quickstepping it down the Army Base Pier. It was good, and we are trying to get enlargements from the movie film to offer to members of the Class.

A. C. Dickerman is Vice-President of the Technology Club of Rhode Island.

Howard Edmunds, of Cameograph, Ltd., London, writes: "I am sorry to say I cannot report any very important advance in science or engineering. I have been working very hard at photo-sculpture for the last few years, and the results, though most encouraging from many points of view, still leave much to be derived from the point of view of material return for the work put in. I may be in the States in a month or so and if so will certainly look you up when I come to Boston, as I always look back with a great deal of pleasure to four happy years I spent at Tech."

After a considerable effort, we have succeeded in getting a line on Ros Davis, who writes: "I am it. You may classify me as Secretary to the Trustee's Committee on Buildings and Grounds, Wesleyan University; which is a mouthful. Freely translated, it means that I handle about all the business of the University and have charge of the physical plant. A new Chemical laboratory is under way and a new library will be started in the spring, both under my eye. I get to New York frequently but have not had time, so far, to look up many of the boys. Needless to say, I shall welcome all who find themselves in Middletown, Connecticut."

ROS WELL DAVIS, *Secretary*,  
Wesleyan University, Middletown, Conn.  
S. T. STRICKLAND, *Assistant Secretary*,  
20 Newbury St., Boston, Mass.

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**'06** The last time we wrote class notes we tried something new and wrote a few lines for the ladies. We have been writing more or less (mostly less) about '06 men for a number of years, most of the time with no response whatever. We had a faint hope that the ladies might be more responsive. To date the only one heard from has been the Secretary's wife who advised that there was a "but" too many in one sentence. All things considered, we could not be expected to be very voluminous this month.

The *Oil, Paint and Drug Reporter* of August 24 contains a picture of Bob Hursh, who has been appointed assistant general sales manager of the New Jersey Zinc Company. Bob became associated with the company in 1907; he was assistant engineer in Mexico in 1907 and 1908; Mexican manager from 1908 to 1914; assistant manager of the Colorado activities of the company from 1915 to 1922, and since 1922 he has been district sales manager for the Pacific Coast with headquarters at San Francisco.

Bob is a member of the American Institute of Mining and Metallurgical Engineers, the American Zinc Institute, and the Engineers Club of San Francisco.

We note that in addition to the story in the *Oil, Paint and Drug Recorder*, there were likewise articles in the *India Rubber and Tire Review*, and the *American Paint and Oil Dealer*.

In looking over the *Electrical World* of October 31, we note a two-and-a-half page article entitled, "Utilities Part in Selling Refrigerators," by H. E. Young, sales manager of the Northern States Power Company of Minneapolis, Minn. — At the time of writing these notes, Otto Blackwell is on a six weeks' business trip to Europe.

By this time New Year's resolutions have been made and broken. In place of some of the shattered ones why not substitute these? Resolved: I will become a sustaining member of the Alumni Association. I will pay my Alumni dues promptly. I will clean up any back pledges in connection with the Technology Endowment Fund campaign. I will pay my class dues. I will plan to attend the Twentieth Reunion of my Class, to be held this coming June.

J. W. KIDDER, *Secretary*,  
40 Broad St., Room 1004, Boston, Mass.  
EDWARD B. ROWE, *Assistant Secretary*,  
11 Cushing Ave., Wellesley Hills, Mass.

**'07** Not a single item of news regarding members of the Class has come to the attention of the Secretary during the last month, so there is absolutely nothing to write in these columns. If any members of the Class have news of interest to '07 men, they should forward it to the Secretary at once, so that our Class will be among those represented in the February issue of *The Review*.

BRYANT NICHOLS, *Secretary*,  
2 Rowe St., Auburndale, Mass.  
HAROLD S. WILSON, *Assistant Secretary*,  
W. H. McElwain Co., Manchester, N. H.

**'08** No notes have been received by The Review Editors from the Secretaries of this Class for inclusion in the January issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to H. L. Carter, Secretary, at 185 Franklin St., Boston, Mass.

**'10** No notes have been received by The Review Editors from the Secretaries of this Class for inclusion in the January issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to Dudley Clapp, Secretary, 15 Draper Avenue, Arlington, Mass., or to R. O. Fernandez, Assistant Secretary, 264 W. Emerson St., Melrose, Mass.

**'11** We had the scheduled 1911 dinner just as October was retiring in favor of November (or thereabouts) and it is my pleasure to announce that Emmons Whitcomb has accepted the chairmanship of the 1911 Fifteen-Year Reunion Committee. Isn't that a wow?

He is now lining up suitable places for such a party and we hope that shortly after New Year's we will have the definite place decided upon, but, of course, the dates are already down on your collective calendars — May 28, 29, 30 and 31, 1926.



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## 1911 Continued

Following custom we gave the classmates who were present at this dinner for the first time in recent years an opportunity to tell of their accomplishments. Warren Simonds, I, down from Orange, Mass., said that he had broken away from civil engineering entirely and for the last five years had been busily engaged in the manufacture of machine parts for the paper and textile trade. Walter Wilson, X, stated that he like Simonds, has forsaken the line of engineering he had studied at Technology, for, following two years in chemical engineering after graduation he joined with his brother in a sheet metal business which is still going strong in his home town of Lawrence, Mass.

Another Lawrencite present, John Alter, IV, spoke interestingly for a few moments on the textile situation in New England and also traced his own career. Starting in after graduation by teaching in Chicago, he entered the field of architectural practice in 1913 and between then and the war he spent part of his time in Lawrence and part in New York. During the war he had an inspectorship in the Quartermaster Corps and since that time has been operating in his home town under the firm name of Ashton, Huntress and Alter.

Paul Cushman, VI, who, as narrated in the November notes, is back at the Institute this year for a master's degree in mechanical engineering, said that he had been teaching almost continuously since graduating. He started at Penn State and after a little time there spent a number of years in the Electrical Engineering Department at Brooklyn Polytechnic Institute. Last year, however, he forsook his chosen electrical line and became head of the Mechanical Engineering Department at the University of Arkansas. He now is anxious to specialize in thermodynamics and has come to Technology in order to accomplish this. He paid a glowing tribute to the engineering leaders on the Technology staff. Our other Nineteen-Eleven who is back here at the 'Stute studying — Walter Arthur, V, — also traced his career, which for the most part has been teaching, with some chemical engineering work in Toledo, Ohio, Wyoming, and at the Frankfort Arsenal. With his typical Missourian drawl and in his inimitable style he kept us all in gales of laughter during three or four right good stories. No, mates, if you weren't at the dinner you'll have to guess what the stories were — and I don't mean maybe!

Concluding the list of newcomers was C. R. Johnson, X, who is back in New England dickering for a distributing agency for machines

for electric refrigeration. After graduation he spent nearly ten years in the rubber game in Akron, Ohio, and in 1920 went to the neighboring city of Cleveland, where he spent three years with the Cleveland Chamber of Commerce on secretarial work. Two years ago he went down to Houston, Texas, with the Humble Oil and Refining Company, but the Lone Star state didn't seem to agree with him from a health standpoint so he has been forced to come back to New England where he is now in much better health, following a summer of recuperation here.

Then we listened for an all too short period to Emmons Whitcomb and Fat Merrill tell of the glorious time they and their wives had on the Raymond and Whitcomb Cruise to Iceland and the North Cape earlier this year. They were both intensely interesting in their description of the little known lands up there in the North and at the conclusion of their talk answered numerous questions. Right after the dinner and preceding the talks we adjourned to the main hall of Walker Memorial and saw the Zizz film of the 1925 Reunion.

In addition to the eight classmates already referred to, there were sixteen more present: E. J. Batty, Obie Clark, Marshall Comstock, Art Coupal, George Cumings, O. B. Denison, Henry Dolliver, Tommie Haines, Jack Herlihy, Hal Jenks, Phil Kerr, Max Kushlan, Harold Lord, Tunnie Parker, D. J. Smith, and Ted Van Tassel.

During the discussion of the impending Fifteen-Year party it seemed to be agreed that it would be very wise to hold this year's reunion somewhere along Long Island Sound so that the boys from New York and adjacent points West and South could more readily attend. In a poll on the question, there was but one man who voted in favor of Boston for this affair. A vote was also taken on the question of having the ladies present and there was but one vote in favor of a stag party.

I've had calls recently from a couple of classmates. First there was Bill Pead, VI, who dropped off on his way back to Montreal from a gas convention at Atlantic City. He seemed to be fine and dandy and was sorry he could not stay for the dinner. Later Thorne Wheeler, X, dropped in and told of the severance of his relations with his course and classmate, Jack Woodruff, since the latter had accepted a fine new position in Terre Haute, Indiana. Thorne has just associated himself with Arthur D. Little, Inc., here in Cambridge. Our old friend Kes Barr, II, is now a real estate operator in Chicago and has his office at 231 South La Salle Street, where he will be pleased to meet and serve any Technology men, particularly Eleveners.

I had the good fortune to be the guest of the New Haven County Technology Club on November 14, first at the Yale-Princeton game and later at their annual dinner meeting. I was delighted to find Ralph Holbrook, X, present. He seems as happy as can be in his berth with the Beacon Falls, Conn., branch of the U. S. Rubber Company. — Sam Scribner, I, has forsaken his home town of Lowell for the nonce and is in the employ of the Boston and Maine Railroad, with headquarters at the Rochester, N. H., station. — Doc Davis, VI, informs me that he is still a Major in the Ordnance Department but has been changed from Fort Sam Houston, Texas, to San Francisco.

Perhaps you remember a Russian who was with us during our freshman year, planning to specialize in mining engineering. I refer to Waldimir Mostowich, from whom we have heard practically nothing since that time. Professor Locke of the Mining Engineering just tells me that he has learned that Mostowich, who was in prison for communicating with foreign technical men without first securing permission from the government, was pardoned and by spending a vacation in a rural district he recovered from the illness induced by the strain of his trial and confinement in prison. Having been elected



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1911 Continued

to the faculty of the Mining Academy in Moscow, Mostowich has left Tomsk for the new position.

Here is a million dollar postscript: We have completed arrangements for the Reunion at the Riversea Club, Saybrook, Conn., May 28-31, 1926.

ORVILLE B. DENISON, *Secretary*,  
Room 3-207, M.I.T., Cambridge, Mass.  
JOHN A. HERLIHY, *Assistant Secretary*,  
588 Riverside Ave., Medford, Mass.

'12 It is with a great deal of pleasure that we announce the arrival of Alexie Florence Morash, born on November 2. B. H. Morash, VI, is the proud father.

Nineteen-Twelve monthly luncheons have again been started in New York, the first being held on November 5. Eleven old reliables were on hand, namely: Brackett, Rhodes, Morash, Freemann, Hall, Appelquest, Ralph Ferry, E. M. Mason, Cooper, Yereance and Lange. Dave McGrath, the instigator and promoter of these affairs, was unexpectedly called out of town and missed this meeting.

Monthly meetings will be held throughout the winter and anybody expecting to make New York should certainly get in touch with Dave, and attend one of these meetings if possible. Dave's address is McCraw-Hill and Company, Tenth Avenue and 36th Street, New York City.

J. A. Allen, who spends his summers in geological field work had a narrow escape from drowning this summer in the Saskatchewan River. He and his assistant, P. L. Lamb, were upset from their boat and lost their entire outfit. They were barely able to make the shore.

FREDERICK J. SHEPARD, JR., *Secretary*,  
125 Walnut Street, Watertown, Mass.  
D. J. McGRATH, *Assistant Secretary*,  
10th Avenue and 36th Street, New York City.

'13 Let every member of the Class of 1913 resolve that once during this Thirteenth Anniversary year he will write a letter to his Class Secretary — and then do it. That would mean about twenty letters for each issue.

And only a few minutes during the year for each one of the writers. Come on boys, let's go!

Mr. and Mrs. Robert B. Ferguson announced the marriage of their daughter, Mary Rouena, to Alexander J. Pastene, on November 7 at Buffalo, N. Y. Sincerest congratulations, and may your future be long and very happy.

That long looked for letter from Mons Gagnon has not yet arrived. In response to a reminder that it was overdue, Mons replied that he had been moving and too busy, but would shoot me something for the next Review. His new address is 19 Catherine Street, Tonawanda, N. Y.

Which reminds me that A. Marshall Loeb of Meridian, Miss., was asking about Mons and Pee-wee Cogan. A. M. writes, "Whenever anything of real interest happens here — should I live so long — I will drop you a line." For heaven's sake let's hear from a place that is quiet and comfy. The Hub of the Universe is getting to be such a busy whirlwind of a town that it would be a relief from our rush and bustle to learn that somewhere they still move at normal speed. Beantown is getting so jammed with traffic that even Pa Ready is on edge. The other day I was riding with him in his new Buick coach and we soon found ourselves in a very crowded thoroughfare. I said, "Pa, I am surprised that such a new car as this would have already developed a bad knock in the engine." Pa replied, "Don't be a fool, Hap, that's my knees."

I had a delightful letter from Larry Hart in which he tells about his new home in Masterton Wood, Bronxville, N. Y. From the snapshots accompanying the letter it must be a lovely home. Larry writes, "Three days after moving I was called out to Chicago to assist in some branch reorganization work which kept me there seven weeks. My wife came out to Chicago in July and spent three weeks with me. It was like a second honeymoon at the Atlantic City of the Great Lakes. We returned home about August 1, and I was given a nice new job as New York district manager, which was quite a surprise after twelve years of traveling all over the United States. Our territory covers New York City, Long Island, part of New York state and the western half of Connecticut. My best to all in 1913."

I am sure I express the sentiments of the Class in saying that we deeply regret the misfortune of Mr. and Mrs. Mattson in losing a son at birth. Fortunately Mrs. Mattson, after a very serious illness, is recovering.

I met George W. Bakeman on the street in Boston recently and had

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1913 Continued

a long chat. He has recently left his work at Vienna and will now be located in Paris with the Rockefeller Foundation at 19 Rue Louis le Grand. George's wife and older child accompanied him to the States but the baby insisted that London was good enough for her while her daddy traveled around. Via George I learned that Jack Farwell is still alive and is hoping to make the jump from France to Natick, Mass., for Christmas.

A Happy New Year to all 1913.

HARRY D. PECK, *Secretary*,  
99 State St., Boston, Mass.

'14

The first of the luncheons for this season was held at the Engineers Club, on November 3. We had an attendance of twelve Fourteeners and one guest: Lieutenant McKay of the Chemical Warfare Service who came with Alden Waitt. Considerable enthusiasm was shown at this affair and it indicated that we are going to have many pleasant luncheons this season. Any Fourteener outside of Boston who gets into the city on the first Tuesday of the month should endeavor to attend. Telephone your Secretary regarding details. Crocker gave a very interesting talk on the subject of "Gas and Gasoline Dopes." Crocker has a particularly interesting and pleasing way of presenting what might ordinarily be dry facts. Those attending the luncheon were Morrison, Waitt, Ricker, H. S. Wilkins, C. H. Wilkins, Crocker, Atwood, Ahearn, Dunn, Downing, Wylde and Richmond.

Jimmie Judge has returned from an extended wedding trip by automobile through the White Mountains and up into Canada. Jimmie remarks that the essential facts are that the date of the grand event was September 21, the place Holyoke, and the bride Miss Elizabeth G. Doyle. He also states, "I am not thoroughly competent to report all the usual stuff about what the bride wore. I can report what the groom wore — but won't." This sounds like Jimmie.

The Technology Summer Camp has grown to quite large proportions and it is now one of the real factors in Institute life. A yearbook called *The Benchmark* is published concerning the doings at the camp. In looking through *The Benchmark* for last summer I was very happy to find that it had been dedicated to one of our own classmates, Harry Bowman. The dedication read, "To Harry L. Bowman, Assistant Professor of Structural Engineering, M. I. T., to whose wisdom, industry and quiet good fellowship the camp owes its harmonious con-

duct, and who early wins the respect and friendship of all those working with him, this sixth volume of *The Benchmark* is affectionately dedicated."

Your Secretary regrets that the notes for this issue are so slim. The fact remains, however, that Jimmie Judge was the only one to write in during the month, even to the extent of answering letters sent out by the Secretary. Your Secretary was absent from Boston part of the time and did not have the usual chance of gleaning the Technology clipping service files for information.

H. B. RICHMOND, *Secretary*,  
100 Gray St., Arlington, Mass.  
G. K. PERLEY, *Assistant Secretary*,  
45 Hill Side Terrace, Belmont, Mass.

'15

It is with deep sorrow that we record the tragic disaster met with by our classmate, Charles Lester Morse, on July 23. Morse was a lieutenant in the air service stationed at Oahu Island. On the twenty-third he was flying his plane on the army end of Ford Island when it crashed to earth and he was killed almost instantly. The following dispatch was taken from the *Boston Herald*: "Lieutenant Morse was the son of Charles Lester Morse of Lancaster, jeweler, and a man prominent in the town's affairs. He was graduated from Lancaster Academy and Massachusetts Institute of Technology. He was stationed in Cleveland for a long time and was married there, bringing his wife to this state on a visit last fall. He is survived by his father, two sisters, Mrs. M. J. Murchy of Lancaster, and Mrs. John Anderson, who is making her home in the West; two step-sisters; a brother, Richard of Berlin; his widow and two children, a boy and a girl. He and his family left for Honolulu several months ago."

FRANK P. SCULLY, *Secretary*,  
118 First St., East Cambridge, Mass.  
HOWARD C. THOMAS, *Assistant Secretary*,  
100 Floral St., Newton Highlands, Mass.

'16

There have been no notes from this Class for some time, but now we will try to keep all Sixteeners posted and let you all know how, when and where our Tenth-Year Reunion will take place. As the report of 1916 at the big Reunion last June has not yet been printed in *The Technology Review*, I will give you the notes as presented me by Hovey Freeman.

"I was sorry not to run into you at the time of the recent Technology Reunion but somehow our paths did not cross. Chuck Loomis, Sandy Claussen and some of the others suggested that I try to keep account of who was present so that I might pass the dope along to you.

"Thursday afternoon at the Registration Desk under the dome, and also at the President's Tea, the clans began to gather with the result that previous to the Jambouree Dinner at Mechanics Building, a preliminary dinner was held at the Hotel Lenox with apparently excellent satisfaction.

"At the Jambouree Dinner there were practically two tables filled with Sixteeners and I would guess that there were probably forty present, but unfortunately I did not make any attempt to make a list of them. The dinner might have been a terrible failure had it not been for the fact that Steve Brophy took a chance when the supply of coffee ran out. The only trouble was that whereas there were only a few who took the kind of coffee served by the caterers, there seemed to be a good many who had a fondness for Steve's particular brand.

"The next day on the Harbor Outing there were about twenty '16 men present who paraded together from the pier on to the boat and then from the landing to the top of the fort where we could obtain a first-hand view of Mr. Zizziter and his would-be marvelous invention. Among those present were Mr. and Mrs. Bradford B. Stetson. Brad is now nearer seven foot than six, and is connected with some steel company on the outskirts of Philadelphia. Then there was our Hen, more formally known as Henry B. Shepard, who is as full of life and energy as usual. Ralph Fletcher was there with his wife and also Ray Stowell with his wife; in fact, Naumberg, Pratt, Hands and Fuller also brought their wives (one each). Among the others present and accounted for were Stewart Keith, Harold Gray, Sam Elsworth, Phil Baker, Burke, Townsend, Loomis, Gruber, Giles, Harrington, George Sweet and H. T. Freeman.

"Most of the crowd were going to attend the Pops Concert in the evening but I had to return to Providence for another engagement.

"The next day the following loyal rooters for the Class of 1916 made their appearance at the Bradford Arms at Sagamore: Ralph Fletcher

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1916 Continued

and his wife; Sandy Claussen and his wife; Ray Stowell and his wife; together with the following temporary or permanent bachelors: Loomis, Baker, Lieber, H. T. Freeman, Hen Shepard, Don Webster, Kleinert and Dave Patten. I lost the list so the above is from memory and I have the feeling that I have left somebody out. This is not to be wondered at after two swims, a couple of games of golf, dancing and several hours of duck on the rock.

"The weather was perfect, the hotel excellent, the water fine, although some said it was cold. The golf course was a typical cow pasture consisting mostly of rough, but the greens were in pretty fair shape. I would give the individual scores but out of mercy and kindness for my associates, it seems best to leave them out for some one might think that something else other than long grass and bushes might have been responsible. Stowell who had never played golf before was in perfect form. An old timer might have been unkind enough to say he was erratic with his three for one hole and twenty-two for the next. Phil Baker, with his rainbow sweater and orange stockings, gave the best version of the 'Kreet Kutt' golfer as depicted by Vanity Fair. Chuck, because of his running ability, proved an excellent ball-hound as well as a good golfer — most of his time though was spent in chasing balls for others.

"Sunday afternoon we had a short meeting and discussed ways and means of getting more active class spirit and a better turnout at reunions, for, from all accounts, our Class was one of the most poorly represented of any. We all hope that for next year, which will be our Tenth Reunion, some class spirit can be mobilized and that we will have a real turnout from all sections of the country. However, I must admit that those who did not come this time missed a lot of fun and should show better judgment next time."

The following marriage took place on June 21: "Of widespread interest in Malden circles is the marriage of Miss Theresa Genevieve Barry and Mr. Earl A. Edwards, both of that city, which was solemnized at nuptial mass at the Church of the Immaculate Conception, followed by a wedding breakfast at the Engineers Club. The bridegroom, an alumnus of the Class of '16, Massachusetts Institute of Technology, is a member of the Engineers Club, Bear Hill Golf Club and Woodland Tennis Club. After a honeymoon sojourn in the White Mountains, Mr. and Mrs. Edwards will live in Malden."

A second announcement reads as follows: "In the First Baptist Church, Miss Laurice Emelie Flagg, daughter of Mr. and Mrs. Elmar A. Flagg of Shattuck Street, Littleton, and George Whitcomb Wyman, son of Mr. and Mrs. Frank Wyman of Allston, were married this evening [September 26] by Reverend Herbert E. Lovejoy, pastor of the church. Miss Flagg is a graduate of Littleton High School, and Woman's College, Brown University, 1919. She has taught in Quincy High School. Mr. Wyman is a graduate of the Massachusetts Institute of Technology. Mr. and Mrs. Wyman will reside in Newton."

A third announcement is that of the marriage of Paul Duff at Peabody on September 12: "A wedding of interest to many in this city and Greater Boston was solemnized at St. John's Church, when Miss Frances Ellen Fitzgerald, daughter of Mr. and Mrs. John E. Fitzgerald of this city and Dr. Paul Harrington Duff of Dallas, Texas, son of Mrs. and the late Dr. John Duff of Charlestown, were married by Reverend Thomas P. McGinn, pastor of St. John's Church, assisted by Reverend Lewis Harrington of Dallas, an uncle of the groom. A wedding reception took place at the home of the bride's parents, 7 Perkins Street. Dr. and Mrs. Duff left this afternoon on a tour and will make their home at Dallas, Texas. The bride is a graduate of Notre Dame Academy and Miss Wheelock's School. The bridegroom is a graduate of the Massachusetts Institute of Technology and Harvard Medical School."

And the main reason the notes in The Review have been neglected is as follows: "Mr. Benjamin F. Bischoff announces the marriage of his sister, Julia Marguerite, to Mr. Dana N. Barker, on Wednesday, June 24, at Newark, New Jersey."

The following engagement has been announced: "Mr. and Mrs. William Henry Blood, Jr., of Wellesley, announce the engagement of their daughter, Miss Mariana Williamson Blood, to John R. Freeman, Jr., of Providence, R. I. Miss Blood is a graduate of Dana Hall and of the Boston Museum School of Fine Arts. She recently has returned from Europe, where she has been occupied during the past year with travel and research work in the museums of London, Florence and Paris. Mr. Freeman was graduated from the Massachusetts Institute of Technology in the Class of 1916. He is a member of the Delta Kappa Epsilon fraternity and the Cosmos Club. He is at present a physicist in the U. S. Bureau of Standards in Washington."

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1916 Continued

Earle C. Pitman writes as follows: "My second daughter, Barbara Anne, was born on February 12. In September I moved to Princeton, but I am still associated with E. I. du Pont de Nemours and Company, in charge of chemical research at the Parlin, New Jersey, plant."

It is with deep regret that your Secretary is required to report the following item: "The sudden death of Garfield Merton Newcombe which occurred about 7:30 Friday evening, August 28, came as a shock to the community [Lincoln, Maine] for although Mr. Newcombe had been ill for two months his many friends who had inquired daily regarding his condition had been much encouraged by his progress in the past few weeks. The services were held at the home on Katahdin Avenue at one o'clock on Sunday. The services were presided over by Reverend John Rosnagel, Jr., pastor of the Congregational church.

"Garfield Merton Newcombe was born in Nova Scotia on June 19, 1889. He was one of a family of nine children and even as a boy showed a determination to have an education and to make the most of his talents. At the age of fourteen he began to serve an apprenticeship in a machine shop. Later he entered the Huntington School in Boston for his high school training, his class being one of the first to graduate from that school. After graduation he entered the Massachusetts Institute of Technology. Although his course was interrupted by the necessity to work for funds with which to go on he persevered and finished his course in the spring of 1916. In November of that year he accepted a position with the Eastern Manufacturing Company as draftsman at the South Brewer mill. He worked there until July, 1918, when he left to attend an Officers' Training Camp, where he was promoted to the rank of Second Lieutenant. He served in the Coast Artillery until he received his honorable discharge from the service in January, 1919. At that time he came back to his former position at South Brewer, but in September, 1919 was transferred to the Lincoln mill as head draftsman and was later promoted to the position of mechanical superintendent. Mr. Newcombe through all his years of work has been a student in his line of work, striving always to better equip himself for its performance.

"On October 4, 1922, he was married to Miss Gertrude Flanders of Lincoln, a trained nurse. A daughter, Marion, was born to them in May, 1924. Mr. Newcombe has been especially devoted to his home and family and could not bear to have his little daughter away from

him for even a day. She was taken to the home of an aunt during the serious illness of her father following a cerebral hemorrhage about two months ago and when it was thought that he was too ill to notice what was going on about him he inquired for her and begged that she be brought back where he might see her . . . The sympathy of the entire community is with the bereaved wife and little child who are left."

In the *Hartford Times* of October 26, the following appointment was announced: "Colonel J. Gilbert Calhoun has appointed Aaron Paul Pratt medical examiner to succeed the late Dr. Howard F. King. Dr. Pratt is a native of Framingham, Mass. He graduated from Clark College, Class of 1913, and the Massachusetts Institute of Technology School of Public Health, Class of 1916, and the Harvard Medical School, Class of 1922. He was an interne at the hospital from 1922 to 1924 and came to Windsor immediately after completing his training at the hospital. In 1916 and 1917 he was public health officer at York, Maine. He was district health officer of the Maine state department of health. In 1918 he enlisted in the Sanitary Corps of the Eighth Division, U. S. A., and was appointed a second lieutenant. After his discharge from the army he returned to Maine and later entered Harvard Medical School. During the time that he was studying at Harvard he was an instructor of public health administration in the Harvard School of Public Health. He is a member of the county, state and American medical associations."

On Tuesday evening, October 5, via the radio from station WJAR at Providence, Hovey T. Freeman spoke on "The Value of Inspections and Their Relation to Fire Prevention."

Professor Charles E. Locke has sent the following memo to us: "In a letter received a while ago from S. Nakaye, '18, who is now located in Osaka, Japan, he reported that Hiraoka, '16, now a Professor at the Osaka Technical College, had established last year the Kansai Mining and Metallurgical Society comprising the engineers in the vicinity of Osaka, and at one of the recent meetings of this society the speaker was M. Tatsuno, '18, who is metallurgical engineer at the Sumitomo Copper Smelter. He spoke on his experimental work in the production of pig iron from the pyrite contained in the Besshi copper ore. This was one of the most important meetings that has been held in Osaka."

Thomas S. McLaughlin of the firm of Phohl and McLaughlin, formerly of Providence, R. I., is now located at 830 Walbridge Street, Buffalo, N. Y., where he is doing well in his chosen professions: that is, architecture and engineering.

In signing off for this month, we just want to remind you that our Tenth-Year Reunion comes in June and we need your help to put it across, so if you have any suggestions to make just send them along to us and we will do our part. Unless we hear from the men in New York state and the West, we will not be able to put it over, so let's hear from every one soon.

D. N. BARKER, *Secretary*,  
14 Marathon St., Arlington, Mass.  
CHARLES W. LOOMIS, *Assistant Secretary*,  
7338 Woodward Ave., Detroit, Mich.

# HEAT

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# COLD

'17 Our worthy Treasurer, Brick Dunham, reports that replies to his recent dues letters are coming in to him regularly, and that he already has received something over \$100. This plus the funds now in the bank will take care of athletic contributions and probably other expenses for another two years. With the true instincts of a treasurer, Brick asks that a blanket word of appreciation be sent through these notes, and thus save the appreciable cost of individual acknowledgments.

There were a few comments received with the checks, ranging from the brief but welcome note: "Raised you \$3.00" from one of the old standbys, to the following: "Inasmuch as my only connection with the Institute was my petroleum chemistry, in connection with my work in Harvard Business School, I do not consider myself a member of the Class of '17."

Some of the other comments follow: "Here's the two berries. How are you? I am now the father of two daughters; Katherine L., the younger, was born October 4. Things are running along smoothly with me, but I sure would like to see the old gang again." This was from Hamilton L. Wood, who is in the Western Department of the Boston Insurance Company, Lansing, Mich.

George D. Kittredge wrote: "Your request for my contribution to the Class Fund finally reached me down here at the jumping-off place and I am very glad to send you the enclosed check. I have been in Florida for nearly two months now supervising the development of a subdivision on Key Largo, one of the large northern keys. We are doing real

1917 Continued

pioneer work as we are pretty well all by ourselves at the north end of the island, fifteen miles from our nearest neighbor. The work consists of mapping our property, designing the layout of streets, canals, and so on, and then constructing them. We expect to be far enough along on our construction program to begin selling lots about December 1. It is very interesting work and I have an interested and able crew of engineers in the field, headed by Frank Broadhurst, '25. I haven't seen many men from the Institute, although I suspect there are any number down here in Florida at the present time. Engineers of all kinds are rather at a premium."

The engagement is announced of Miss Susan Williams and John Aleck Lunn. — Roswell E. Pfohl has moved back from New York City to Buffalo, N. Y., and J. R. Ramsey has moved to Jackson Heights, N. Y.

By special dispensation from the Advertising Department of The Review, we are permitted to quote the following advertisement. This is understood to be a follow-up of the sales activities of this company at the 1917 Seaconnett Reunion: "Announcing the purchase of the Hohlfield Manufacturing Company's Couch Hammock Business by the Bell-Nutter Manufacturing Company which will continue the manufacturing of couch hammocks at the same location as formerly and under the same manager. — The 1926 line of couch hammocks is now ready and will be exhibited by the former salesman at the following places: 10th and Allegheny Ave., Pa., by Mr. D. E. Bell. . . . The salesmen are starting out immediately and will make their usual calls. We solicit the reservation of a share of your business. The Bell-Nutter Manufacturing Company, Philadelphia, Pa."

Brick also received the following letter from Ken Richmond: "Am enclosing check in accordance with your request. For the past three years I have been comptroller with the Stein-Block Company, manufacturers of men's fine clothing, Rochester, New York. It is a far cry from the purely technical phases of mechanical engineering. However, it is at the very heart of business and I enjoy the work immensely. I have full swing of all financial matters including costs. Handle over half a million a month in, and about the same amount of disbursements. My share is, of course, a microscopic proportion of the total. I am married and have two youngsters. The boy may make a prospect

for Tech, but his feet are so big as to qualify him better for a policeman. I hope to get down to Boston some day and will try to pay you a call; meanwhile the check and my best wishes."

RAYMOND S. STEVENS, *Secretary*,  
30 Charles River Rd., Cambridge, Mass.

'18 Your Secretary has made a poor start after a long summer during which it was necessary to do everything but gather news. The first call for notes for The Review came at a time when a period of twenty-four consecutive hours in Boston was unknown to him. This will in part account for the absence of the 1918 column in the November Review.

The note of greatest importance is as follows: Mr. and Mrs. Curtis Thompson announced the marriage of their daughter, Lorraine Haynes, to Robert Woods Van Kirk, Jr., on Saturday, October 10, at Wilmette, Ill. By this you may see that the writer and the ever-decreasing list of incorrigibles were dealt a death blow. I am sure that I expressed the wish of the whole gang when I sent Bob heartiest congratulations.

Another mail from the West announces the arrival of Alice Claire Lacey, October 3. Lieutenant and Mrs. Henry Richard Lacey are the happy parents.

Dennie sends some information about Packy McFarland, the high lights of which are that Packy was married last March and is very happy in his new circumstances. Further than this, Packy has crashed through in fine shape by taking out a life membership in the Alumni Association. More power to him!

An interesting letter from Asher W. Joslin reads as follows: "Have just got the Reunion issue of The Review, and I see that '18 was pretty well represented. I had hopes of being there, but the gods ruled otherwise. We are building in this zone about fifty kilometers of new railroad line which must be done before December 15. That's the real reason that kept me away. Prospects for a vacation look rather slim this year, although, if the work winds up on time in December, I shall try to spend Christmas in Boston, and shall probably be frozen solid from the time I reach there until I get back here again.

"About the only diversion here is a little session of stud poker once



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1918 Continued

in a while, or a trip to Moron or Ciego de Avila for a week end now and then. The glorious Fourth I celebrated in Moron where the Lyceo or club had a big dance and feed. It was a large party in more ways than one, and apparently nobody there suffered from thirst. About two weeks ago I ran into an old timer down in Santiago De Cuba; Bill Grimes, '08. He is doing some transmission line development work for the light and power company down in that part of the island. My own reason for being in Santiago was to bend the elbow a few times with Bill Fitzgerald, '20, who passed through Santiago on his way to Honduras. We did. Do I need to say any more?

"So finally Ken Reid has got the ball and chain tied on firmly. There is now hope for the most confirmed bach' in any class, anywhere. So far at least, I am in the singles class, and in no immediate danger of being otherwise, at least as long as I am marooned out in the sticks. I like brunettes, but that refers to the hair and not to the skin."

In a letter received a while ago from S. Nakaye, who is now located in Osaka, Japan, he reported that M. Hiraoka, '16, Professor at the Osaka Technical College, had established last year the Kansai Mining and Metallurgical Society comprising the engineers in the vicinity of Osaka. At one of the recent meetings of this society, the speaker was M. Tatsuno, '18, who is metallurgical engineer at the Sumitomo Copper Smelter. He spoke on his experimental work in the production of pig iron from the pyrite contained in the Besshi copper ore. This was one of the most important meetings that has been held in Osaka.

Report has it that Mr. and Mrs. W. Lock Wei have taken up their residence at Charlesgate West. Since his graduation in our Class, Wei has become internationally famous as a tennis player, while Mrs. Wei has attracted to herself hosts of friends by her own personal brilliance.

Miss Elizabeth Fennessey who, since her graduation, has been living in Brookline, left early in the summer to enter the sisterhood of Notre Dame. Before her departure from Boston, Miss Fennessey was much feted by her hosts of friends.

A. C. Walker is with the Bell Telephone Laboratories of New York, engaged in research work. In addition to his regular duties, Walker is instructor in physical chemistry in the out-of-door educational courses which this company provides for its employees during the winter months. Walker has been with the Laboratories, which formerly were

the engineering department of the Western Electric Company, since 1923.

The following item appeared in the Bridgeport (Conn.) *Star* under date of July 6: "Announcement has been made of the engagement of Miss Florence Jennings Burr, daughter of William H. Burr, of Westport, to Philo Shelton, son of Hamilton S. Shelton, of Fairfield. Miss Burr is a graduate of Smith College and Carnegie Library School, Pittsburgh, Pa. Mr. Shelton is a graduate of the Massachusetts Institute of Technology."

The Hartford (Conn.) *Times* of May 9 published a very attractive story of the wedding of Bill Foster. Mrs. Foster was Miss Beulah Robinson, daughter of Mr. and Mrs. Seymour Norton Robinson of Hartford. She attended the Bennett School at Millbrook, N. Y. We are looking forward to the pleasure of meeting Mrs. Robinson sometime in the near future.

The Boston *Herald* of June 13 contained an account of the wedding of Erving Goodwin Betts and Miss Marian Phoebe Van Wormer. Mrs. Betts is a graduate of Boston University in the class of 1923. The wedding was solemnized in the Centenary Methodist Episcopal Church of Auburndale and was followed by a honeymoon through Nova Scotia and Canada. — The Boston *American* of June 23 included the account of the wedding of Miss M. Beatrice Brine of Somerville, a director of the League of Catholic Women, and George S. McLaughlin of West Somerville. Before her marriage Mrs. McLaughlin was for several years athletic coach at Somerville High School. — Jim Irwin, Jr., became the proud father of James Irwin, 3rd, the early part of the summer. The Boston *Traveler* of June 3 mentioning this event gave considerable space to recognition of Jim's war record and engineering experience.

At the recent chemical exposition at the Grand Central Palace in New York, the writer had the good fortune to encounter A. C. Walker and Folsom. An account of the business activities of the former appears earlier in these notes. The latter is now with the New Jersey Zinc Company and has attained considerable success in his profession. At the banquet following the exposition, I was greatly surprised to bump into my old army roommate, Bridgewater. He was enjoying the banquet and post-prandial exercises to the utmost. It was a great pleasure to see him. A few nights ago we encountered Nelson Bond in a very quiet little place: downtown New York. Nels is with the American Telephone and Telegraph Company in the long lines department. He spent the summer at Kew Gardens, Long Island, and has some interesting tales to tell of the Browning episode.

Pete Strander shows up from time to time and reports continued success in the advertising field. — Ev Rowe is still with the Metropolitan Insurance Company in New York, where he has charge of reorganization.

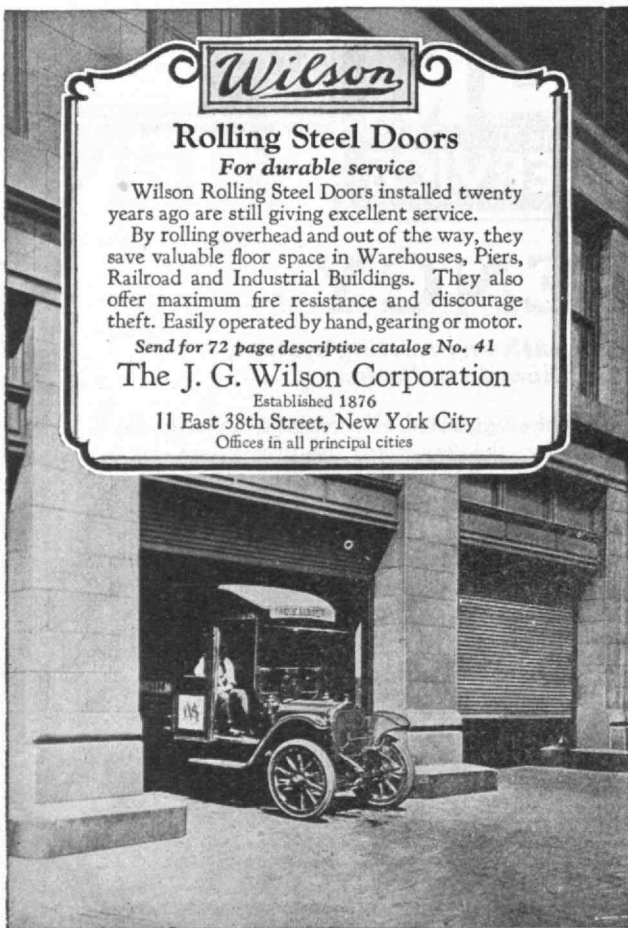
The class luncheons for the group around Boston have started again and maintain the same schedule as last spring, when they were held the first Monday in each month at the Engineers' Club. The hour is 12:30. Try to be there.

P. W. CARR, Secretary,  
400 Charles River Rd., Cambridge, Mass.

'19 No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the January issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to Paul F. Swazey, Secretary, at Box 1386, Boston, Mass.

'20 The editors of this here paper say that it's up to me to keep 'em supplied with fodder for this colyum, but I think different. I have no hesitation in passing the buck to you. Feed me the red hot dope and we'll have some class notes as will make better reading than the latest copy of "Smart Confessions" or "True Pipe Dreams," or other news stand thrillers.

Just after closing date for the December number of The Review, I received a mighty nice letter from Dorothea Brownell Rathbone, doubly interesting because of its news of two loyal Twenty-ites, herself and C. K. They have settled in Providence and C. K. is a building contractor in that city, a construction engineer, while Mrs. Rathbone is a domestic engineer, very much occupied with the much more important work of building future citizens rather than houses. They have a girl and a boy and surely they are headed for Tech with a grandparent and two parents to guide them.



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1980 Continued

Henry Dooley, in a brief but pointed report, states that he considers the fact that he still remains unmarried the supreme achievement of his first five years out. How about it, married men, are you going to let him get away with that?

I venture that Bunt Murphy has had about as colorful and varied experiences as any of our gang. As you may know, he went into relief work in Turkey and Arabia soon after he left school and just got back from feeding, clothing and spanking a few hundred little Armenian refugees last year. Now he's doing social service work in Boston but finds it rather tame compared with the Near East. Bunt is still single, but then he hasn't had a fair chance.

Bob Sumwalt's new address is Los Patio Apartment 18, Richland and Central Aves., Bradenton, Fla. Yes, you've guessed it. He's in the real estate game, and insurance besides. Of course, he mentions the wonderful climate and the daily swims in the Gulf. Bob was married November 29, 1924, to Miss Caroline Causey, of Hartsville, S. C. — R. F. Lyon is doing business as a patent attorney in Los Angeles (but he didn't mention the climate). He's married and has two daughters.

Dan Whelan wrote me a nice letter from Seattle. He was married in Juneau, Alaska, in 1923, and has a son, Dan the Third. Dan is a lieutenant in the Coast Survey and has been ever since graduation. You can reach him at 202 Burke Bldg., Seattle, Washington. — Ted Hobson is doing his bit for modern progress by selling oil burners and electric refrigerators to a coal and ice pestered public. His address is now 516 Andover Street, Lowell, Mass. Ted has a son most three years old. His name is Gordon G. Ted says the "G" does not stand for gin.

Arthur Rouse is now with the Ludlow Manufacturing Associates doing statistical work. He has been with the General Electric Company most of the time since he left the 'Stute. He was married October 24 to Miss Ruth A. Gammons, of Taunton, Mass., and his wife has had training and experience as an expert dietitian so he is now sitting pretty. — Anthony Anable announced the birth of Anthony Anable, Junior, on October 6, last.

I received a very interesting letter from André Deschamps who is living in Brussels, Belgium: 101 Dieweg, Txelles-Brussels, will reach him. He is married and has a little daughter, born August 14. He is intermediary engineer of the Compagne Internationale pour le Fabrication Mechanique de Verre, having to do with the installation of Libby-Owen glass machinery in Europe, and his work keeps him moving from one of their six factories in Europe to another with an occasional dash to the States. He expects to take a vacation in Switzerland during the winter sports, which is not so tough.

The following entertaining and informative letter from L. B. Hitchcock is worth quoting verbatim: "I will respond to your kind invitation to submit vital statistics with a friendly challenge attached to same. To wit: I claim the Class Baby, Eleanor Margaret, born September 3, 1921. Any antedating are invited to communicate. Secondly, I claim the highest percentage co-ed family, submitting in support of this claim the names of Patricia, born May 31, 1923, and Jacqueline, born August 4, 1925. The youngsters were all born in the Army and at present are engaged in preventing me from writing or studying to the best of their abilities. As a defense against the youngest, I usually study with a pair of long-distance radio phones on my ears, fitted with rubber covers. (I submit this as helpful household hint to other '20 fathers.)"

"My presence back at the 'Stute is due to the kindness of Uncle Sam who has sent me here for a year or so to learn something about motor fuels. Since 1920 I have been in the Field Artillery at Camp Knox, Ky.; Ft. Sheridan, Ill.; Camp Custer, Mich.; and others. While I have been with horse outfits so far, I hope to turn my years at the 'Stute to good advantage by getting into motor development work for the tractor-drawn battalions.

"As you may know, a number of our Class entered the F. A. at the same time, including Perkins (Course III), Vepsala, Lesser and others. Will some one tell me where Dick Herezel is? I tried to find him out in Chicago, but no trace. Even the feller that runs the hotel out there didn't know him. I presume the world knows that Heinie Forrest has a future engineer growing up. But I'm not jealous. Ask Miss Noonan if girls aren't better than boys. And my girls show unmistakable signs of talent, anyway. One will probably be a furniture mover, the second a pickpocket, and the last, I judge, will be a vocalist. They knew out at Fort Sheridan who got the bugler up. (And our quarters were clear across the parade ground from the barracks, too.)"

I wish some of you fellows would take a tip from L. B. and come across as handsomely as he has.

## BRINGING MORE DAYLIGHT INTO INDUSTRIAL BUILDINGS.

Dr. George M. Price, writing on "The Importance of Light in Factories," in "The Modern Factory," states: "Light is an essential working condition in all industrial establishments, and is also of paramount influence in the preservation of the health of the workers. There is no condition within industrial establishments to which so little attention is given as proper lighting and illumination. Especially is this the case in many of the factories in the United States. A prominent investigator, who had extensive opportunities to make observations of industrial establishments in Europe as well as in America, states: 'I have seen so many mills and other works miserably lighted, that bad light is the most conspicuous and general defect of American factory premises.'"

"My own investigations for the New York State Factory Commission support this view. In these investigations it was found that 36.7% of the laundries inspected, 49.2% of the candy factories, 48.4% of the printing places, 50% of the chemical establishments, were inadequately lighted. There was hardly a trade investigated without finding a large number of inadequately lighted establishments."

Inadequate and defective lighting of industrial buildings is not confined to the establishments in New York State alone. The same conditions prevail in most sections of the country.

Such conditions as mentioned above are entirely opposed to the laws of health, sanitation and efficiency. Wherever poor lighting conditions prevail, there must be a corresponding loss of efficiency and output both in quality and in quantity. American industry is not using nearly enough daylight and sunlight in its buildings. Every endeavor should be made to use as much as possible of daylight for lighting purposes. To obtain this it is of course necessary that the rays of daylight and sunlight are permitted to enter the interior of the buildings as freely as possible, with the important modification that the direct rays of the sun must be properly diffused to prevent glare and eyestrain. A glass especially made for this purpose is known as Factrolite, and is recommended for the windows of industrial plants. Windows should be kept clean if the maximum amount of daylight is to pass through the glass, but the effort will be well repaid by the benefits secured.

In the presence of poor lighting, we cannot expect men to work with the same enthusiasm as when a well lighted working place has been provided. The physical surroundings have a deep effect upon the sentiments of the employees, and where bad working conditions are allowed to prevail, there is invariably a lessening of morale and satisfaction created thereby. Neglecting to utilize what nature has so bounteously provided, daylight, and which is so essential toward industrial efficiency, we have an instance of wastefulness, but now that the importance of good lighting is becoming recognized, undoubtedly more attention will be given by progressive industrial employers to furnishing the means which are essential for their workers to secure and maintain the efficiency, which counts for so much in the success of any industrial concern in this competitive age.

If you are interested in the distribution of light through Factrolite, we will send you a copy of Laboratory Report—"Factrolited."

MISSISSIPPI WIRE GLASS CO.,

220 Fifth Avenue,

St. Louis.

New York.

Chicago.



1920 Continued

If Perk Bugbee hadn't stopped off at Indianapolis while conducting one of his whirlwind tours as a stump speaker for Fire Prevention, we'd probably never have known that Ned Murdough was married. Ned made a flying trip to Boston recently and brought back his bride from the Hub of the Universe to the Hub of the United States.

Your Secretary is justifiably proud to be able to add a small news item about himself. Barbara Bugbee was born November 1.

HAROLD BUGBEE, *Secretary*,  
9 Chandler Road, West Medford, Mass.

'21

A Happy New Year! A new year with new thoughts: thoughts to write your Secretary about yourself and others. Here's hoping that your raise came through.

On October 27 Scripps Booth, IX-B, and Miss Helen Gordon Spurr of Brookline, Mass., were married. The wedding was held at the Church of Our Savior in Longwood, and among the ushers were Bruce Rogers, X, and Donald Lovis, XV. Scripps is assistant sales manager of the Cities Service Refining Company at 209 Washington St., Boston. They are living at 101 Orchard Circle, Swampscott, Mass. — On July 11, Art Skilling, I, and Miss Marion Stewart Hendry were married in Pittsburgh, Pa. — On October 31, Maxwell K. Burckett and Miss Ethel Morrell were married at Arlington, N. J. They are at home at 2522 Bell Place, Walnut Hills, Cincinnati, Ohio.

We're a little shy on notes this time, but it's time for a class letter to go out to get the news — so watch for it and send it back in a hurry when you get it.

Five-year Reunion this coming June. An announcement will be made soon.

R. A. ST. LAURENT, *Secretary*,  
431 Oliver Street, Whiting, Ind.  
CAROLE A. CLARKE, *Assistant Secretary*,  
132 Northcliffe Ave., Montreal, P. Q.

'22

Your General Secretary once heard John Wanamaker introduce Theodore Roosevelt to some ten thousand souls who had managed to get into the auditorium of the Cooper Union (maximum capacity, 1700) during the course of the 1916 presidential campaign. This information is not tossed off in any Marcossnish "I-says-to-the-Queen" spirit, nor

yet to demonstrate that despite advancing years our mind is as alert and active as ever, and our memory undimmed by the passing of the centuries. It is brought forth to point a moral, and to provide a snappy exit. Old John thought that everybody was vitally interested in him, so he made plans to give a real, generous "let me trespass on your time for a moment" introduction of the Main Feature, and to take about forty minutes in the process. After six or seven minutes the emotions of the crowd rose to the point of audibility, and in another three ten thousand throats were yelling "Take him out" in perfect unison. So they took him out, and poor old John had to truncate his introduction after having progressed no further in the historical line of descent to the speaker of the evening than Pompey the Great.

Far be it from us not to profit by the lesson that old John learned that night. By the force of events we have the job of keeping the crowd quiet until Heinie Horn, Traveling Secretary of '22, can change into his first act costume. And we are not going to talk as much as ten seconds beyond the time he gives us our cue.

As a matter of fact, this conciseness is no great problem this month. We have only one letter to present, instead of the dozen we had counted on. It came from Bill Taft, X, once a part of those Siamese quadruplets, Koehler, Ingalls, Ditenhofer, Taft, now hopelessly disintegrated. Bill's handwriting has always had a certain value as a museum specimen, and it may be that here and there our scholarship is not equal to it, but here is our version of what he says: "Since last I saw you in New York at the Technology Banquet of some sort or other, I have taken the fatal step up to the altar. And now we are going to Cuba to live. Central Hershey, Cuba, is the address.

"We will be living in a town devoted to the making of sugar but near enough to Havana to be able to get some play along with the 'devotion.' We shall be about an hour and a half away from Havana so in case you should come down there do drop in and see Mrs. Taft and me. I promise you we won't try to marry you off to anyone. Perhaps, because there won't be any unattached ladies in the town."

We may say with authority that Bill's reason is but one of a number, any other of which would have been equally good. In spite of the morbidity of his close it was fine to hear from him, and as soon as he is established in Central Hershey (as we remember it, Bill lived in Runkle during his Institute sojourn, so that his progress has been logicity itself) he will sit him down and write a long, detailed, but not too technical, description of the life among the sugar canes. We are quite definitely looking forward to this, Bill, and we must not be disappointed. Meanwhile, the best luck in the world to you and the Missus.

That exhausts our correspondence file. Fortunately there are a few items in the list of what O. B. Denison would call our "contacts," but to which we should prefer to give a different name. Let us waive definitions and see who in the way of visiting firemen have crossed our path in recent days.

We first note the exquisite business card of Mr. Walter Julian Hamburger, '22, who is now an Industrial Engineer with the Atlanta Paper Company which is located, by an odd turn of fate in Atlanta, Ga. Walter has already made rapid strides toward consonance with the customs of the country. He said to us, "Ah wan' yew to know, suh, that Ah find it an insupportable insult to be classified with any othuh than mah own choice of Institute classes, suh, and that Class is '21, damn yo' insolent tongue, suh!" We may say that we enjoyed Colonel Hamburger's visit immeasurably, and that his fellow members of '22 will rejoice in the revival of the Old South that now seems impending.

Creepy Crofton dropped in to see us on the day of the Harvard-Yale game, and was so affected by the picture of poverty that we presented that he paid his alumni dues on the spot. — R. W. Haskell we have seen twice since last report. He is now the manager of several apartment houses in New York for the Realty Surety Company of 2720 Broadway, and anyone anxious about establishing his future home in two rooms, kitchenette and bath, will do well to look him up. — Charlie Roll dropped in on his way from Morocco to Yokohama. This is quite literal. Readers of the November issue will recall the post card we had from him on the Riffian front. Some weeks after we had had that, Charlie breezed into the office announcing his latest designation. We suppose he is already on the way. The Johns-Manville Company is responsible for all his traveling expenses.

But now Heinie is ready for the triumphal entry, so we beat a hasty and disordered retreat until February.

ERIC F. HODGINS, *General Secretary*,  
Room 3-205, M. I. T., Cambridge, Mass.



Deck Cable	Flexible and Extra Flexible Conductor
Heater Cord	Moving Picture Machine Cable
Telephone Wires	High Voltage Wires and Cables
Packinghouse Cord	Hard Service Portable Cable
Railway Signal Wires	Elevator Operating Cable
Battery Charging Cables	Elevator Lighting Cable
Elevator Annunciator Cable	Rubber Covered Wires
Flameproof Wires and Cables	Switchboard Cable
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*Quality of product is our first consideration*

**BOSTON INSULATED WIRE  
AND CABLE COMPANY**

**Boston, Massachusetts**

1922 Continued

*Field Notes*

And so it came to pass that one of the biggest political scandals in the history of the Institute and the only one of the Class of 1922 has been brought about by two of the most honorable (at least it is so alleged) gentlemen of '22. The one member of the Class that has never been known to write the Gensec a letter has been "appointed" Traveling Secretary. As near as I can find out one Mr. Eric Hodgins had to make some excuse for his own rather lengthy colyum in The Review to one Mr. Donald Fell Carpenter. These two gentlemen put their heads together and uttered in chorus, "Where, outside of Florida, is there a Sucker?" And so they appointed one poor hard working peddler. All small jobs gratefully received. I absolutely refuse to guarantee the truth of the statements I may make and further refuse even to whisper the source of my information. All good members may speak freely of their friends and enemies. So here goes.

In the course of my travels I wandered into the city of Buffalo, noted in general for its beautiful streets, homes, and so forth, and in particular for the good cheer of several distinguished members. I saw considerable of our old friend Joe Keegan, formerly of Cambridge, Wellesley, Holyoke, and Northampton. Joe is busy satisfying the many customers and consumers — for not all customers are consumers by any means — of the Fleishman Yeast Company. Whenever the demand exceeds the supply Joe goes out and buys another company. In short, Joe is a very busy man. He has to run around putting pep in the many salesmen of that territory. I have forgotten the title so we'll say Joe is a Liaison Officer (Amber spot on that one, Eric). Oh, yes: I forgot to say that Joe is also one of the leading club men of Buffalo. He lives at the University Club, knows all the proper (possibly the word should be "appropriate") places to go, wears a you-know-the-kind mustache, and so forth. Joe's biggest accomplishment since Tech Show was the running of the Bakers' Convention in Buffalo. Of course, everybody east of the Mississippi has heard about that so I won't go into the matter. If any of you have not heard and wish to get the low-down on this great event, just drop me a line and I'll send you a photograph of it. There is no question about it: you can't appreciate Buffalo unless you have Joe with you.

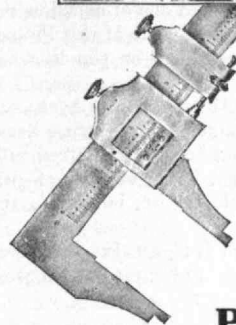
From there I went over to Cleveland. As you may know they have a convention there every few minutes. I saw Warren Sherman the first night, and we spent one large evening hashing and rehashing the heating and ventilating business. Sherm is the district manager for B. F. Sturtevant with headquarters in Cleveland. As a matter of fact, I think Sherm is thinking of retiring soon, as he has a clever little boy who ought to be able to go to work shortly. Sherm is offering to have him do five fast rounds against any of the class babies at our Five-Year Reunion. Better start training now.

The next night I saw Larry Davis and his wife and later Ralph Goeckler and his wife dropped in and we all looked over "the most beautiful theater in the world." (To be a booster you must start in Cleveland where they know how.) Larry is Cleveland manager for the Cities Service Company. It may sound like "oil" but it's a real job. Goeck has been with his father's company and is doing well.

Charlie Rudderham bobs up about everywhere. Having seen him in Wilkes-Barre and Scranton and heard of him in Reading, I was not at all surprised to see him in New York. Charlie is now purchasing for the Ross Stores — a chain organization — having been on the outside for some time opening up their branch stores. Also, I saw Charlie at the Yale-Princeton game.

That week end I went down to Philly to see Jack Sallaway — in fact, I had been there with him several times before — and we looked Red Grange over. I am advising all customers who play bridge in that town to play 'em close to the chest. Jack, Deck Shaw, George Anderson, Bill Stose, Mickey Mink and I played a lot. Chet Greening was in from Akron one night. I've been led to believe that I was the big winner and I know it was just twenty cents. Jack is with the Cities Service or Crew Levick (take your choice); Deck is a patent lawyer with Howson and Howson; Andy handles the production for Paiste and Company; Mickey is responsible for the excellent service of the Bell Telephone Company (you must admit it for I got Sally out of bed at just 3:21 A. M. and that's good service); Chet Greening can tell you more reasons why you should buy Goodyear tires than a woman can give you for being late. I missed Tommy Gill and can't seem to find him, but he's in Philadelphia and married, so I gave up looking for him late at night.

I ran into Bill Grady in Grand Central one day and so two brother peddlers sat down and made a date only to miss each other by five minutes. I've forgotten who he's with and where to get him, but he's the same old Bill.



## Re-making the World with Precision Tools

IT is difficult to comprehend the tremendous changes made possible in the world by the introduction of practical precision tools. The astounding mechanical progress of the past 50 years, which has completely changed man's environment, would have been impossible without them. They place within reach of all the standards without which working methods in the metal trades would be primitive.

The vernier as a mechanical principle of indicating very small dimensions was invented by Pierre Vernier in 1631. The first practical application of the principle to a measuring tool for metal-workers was not made, however, until 1851, when Jos. R. Brown invented the Vernier Caliper.

The manufacture of this highly useful tool by the Brown & Sharpe Mfg. Co. dates from that year. Today, hundreds of styles and sizes of tools embodying the vernier, and measuring to one thousandth of an inch, are made by this company and distributed all over the world.



*The first and original Vernier Caliper, so far as is known, invented in 1851 by Jos. R. Brown, the founder of the Brown & Sharpe Mfg. Co.*

**BROWN & SHARPE MFG. CO.**  
PROVIDENCE, R. I., U. S. A.



1922 Continued

I dropped into Don Carpenter's about ten o'clock one night on my way through to Buffalo, and we were pretty good Spaniards for a couple of hours. Don's Vice-President of the B. G. Carpenter Company and works fifteen hours a day, so when I saw him it was just quitting time or, as his stock clerk says, "all over." Funny to be stopping off in your home town for two hours, but that's what I was doing. I couldn't say much about this job Don wished on me because he gave me a very high powered Ford a short time ago.

I met Bill Bainbridge in New York the other morning and then saw him in the Village the next night. This was on Madison Avenue. Bill is with Johns-Manville. I also saw Charlie Roll one day, but a long time ago. He's with the same company. Met Bill Noyes on the street some nights later as he was on the way to the theater. Bill is selling for Harris-Forbes.

Dunc Linsley is with the same company as Bill. He has just returned from his wedding trip in Europe. Incidentally, I saw Dunc "before and after," and if marriage can do for everyone what it has done for him there wouldn't be a single man left.

In Buffalo I had a large evening with Wes and Evelyn Hammond. Windy is with the Worthington Pump and one of us fellow peddlers (sometimes called sales engineers). There's none of this Philadelphia bridge at the Hammonds'—you either win or you lose and I'm consistent.

Then I spent about an hour with Al Browning in Syracuse a few days later. Al has just been put in charge of the Syracuse Branch for the Robertson-Cataract. Al swears that he saw and talked to Parker McConnell in Syracuse some time ago. I've met a lot of girls that had talked to Parker since he left the 'Stute, but here's the first classmate.

H. J. HORN, JR., *Field Secretary*,  
47 Center St., Kingston, Pa.

## COURSE XIII

The Secretary of the Course regrets that the press of time prevents any elaborate remarks on the doings of our group of the great and numerous Class of 1922. It further prevents any carefully thought-out humor being inserted, because your Secretary is materially serious-minded anyway and his frivolity is not spontaneous like that

of Secretary Hodgins, but is rather evolved only after serious thought. So with brevity let us proceed: On November 20 while journeying to Boston on the Fall River Line we encountered E. L. Winslow, homeward bound after having been shipmates with a Diesel engine for a time. He said that he was joining forces with Ward Shearer and the Ore Steamship Company, Marine Department, later in the month.

A card received early in the summer announces the engagement of Don Warner and Miss Mildred R. Whitehouse. Although the bachelors of the Course are undoubtedly grieved to find another slipping, we can't help rejoicing with Don, and extend best wishes to both.

Alan Bowers has had, we believe, severe trouble with his writing hand, from which he only just recovered to advise that, contrary to persistent rumors otherwise, he still holds forth for Worthington. Bernard is also there and Red De Reynier, both being with the New York office. — Don Bixler has left the Federal Shipbuilding Company and is now with the Chrome Steel Company.

Although A. W. Peterson is not a part of our gang, he is probably well known to all. The Secretary would like to chronicle that he visited New York in the spring of this year, making a special study of operating practices of the New York Telephone Company to be applied to the Porto Rico Telephone Company. He returned to San Juan after a month's stay and has not been heard from since.

The third annual census of Course XIII will be attempted shortly after the first of the year. A response similar to that of last year will be more than gratifying.

C. FORD BLANCHARD, *Secretary*,  
Room 1400, 35 Nassau St., New York, N. Y.

## COURSE XV

Before getting under way, one of the fundamental principles of business efficiency tells us that the things that should have been done before must be cleaned from the slate. We refer particularly to the avalanche of news clippings that the Gensec blessed us with some time ago.

As a reaction against the orderly way in which business matters are supposed to be handled let us play grab-bag with the clippings and take them in that order. The paragraph headed "Smith Graduate Weds" tells us, "In historical old Village Hall, Framingham Center, Miss Marjorie Brigham, only daughter of Dr. Walter Irving Brigham of that town, was married to John Alden Chapman of Salem. A graduate of Smith College, Class of 1918, Miss Brigham has been doing industrial psychology for a Boston business house. The bridegroom is a graduate of the Massachusetts Agricultural College and of Technology." The next clipping to come from the aggregation happened to be a very fine picture of the bride from the *Transcript*, June 20.

The *Transcript* of May 18 tells us of the wedding of Miss Ruth Jones and Francis Edward Slayer. "In Trinity Church at Newton Center, the marriage of Miss Ruth Jones, daughter of Mr. and Mrs. Samuel Finley Jones of 899 Washington Street, Newtonville, to Francis E. Slayer, took place on Saturday with Reverend Edward T. Sullivan, D.D., as the officiating minister."

Here's another from the *Transcript* of July 10: "Announcement is made by Mr. and Mrs. Edward Mills of Southold, Long Island, and of Tarpon Springs, Fla., of the engagement of their daughter, Miss Edith Mills, to Robert W. Olsson of Wellesley, who was graduated from the Massachusetts Institute of Technology in 1922. His marriage to Miss Mills, who attended the Dana Hall and Pine Manor Schools in Wellesley, will take place in the autumn." We saw Bob at the Jam-bouree Dinner, after he had just returned from Florida.

This time from the Newburyport *News-Herald* under date of June 29, we note: "Brilliant Wedding at Old South" and all that, several thousand words to the effect that our old friend Elliott P. Knight and Miss Ethel L. Landford of Newburyport were united in holy matrimony. Knight is with the Employees Liability Assurance Company of London, in the New York office. His address is 120 William St., New York City.

The *Globe* of September 27 says: "Mr. A. J. Jackson of 49 Coolidge St., Brookline, has sent out invitations for the wedding of his daughter, Miss Helen Fay Jackson, to Albert Nickerson Walker, also of Brookline. The ceremony will be performed on October 3, in St. Mark's Church at 8 p. m. by Reverend Dillon Bronson of California. Miss Jackson was graduated from Wellesley in June and her bridesmaids are classmates."

The *Transcript* of September 22 tells us, "Mr. and Mrs. Marshall Hodgman of St. Louis announce the engagement of their daughter,



## One Dollar In the Gold Gift Box

Designed for men who demand distinction in everything they wear. Other Bostons 25c up. In wide web, narrow web, single or double grip.

The Dealer Who Sells Bostons Knows Quality  
GEORGE FROST COMPANY, BOSTON, MAKERS  
of Velvet Grip Hose Supporters for All the Family

1922 Continued

Miss Eunice Wade Hodgman, to Raymond Crawford Rundlett of Boston. Miss Hodgman attended Miss Porter's school of Farmington, Conn., and is a member of the Junior League and Imperial Club of St. Louis. Mr. Rundlett is the son of Mrs. Charles Lewis Rundlett of Worcester. The wedding is planned for the early spring." Ray, by the way, is in the Merchandising Department of Gilchrist's Store in Boston.

The Cambridge *Tribune* of August 22: "The engagement is announced of Miss Lillian Margaret MacDonald of Watertown to Philip Bradford Holmes. Her fiancé was graduated from the Massachusetts Institute of Technology in 1922 and now lives in New Port Richey, Fla." How about a letter, Phil, telling us about the long jump from here to Florida?

The New York *Herald-Tribune* of September 4: "The marriage of Miss Julia Quaintance, daughter of Mr. and Mrs. William Bentley Quaintance of 11 West Eighty-first Street to Mr. Duncan Linsley, son of Dr. James Russell Linsley of New London, will take place tomorrow in the Pequot Chapel, New London. Mr. James R. Linsley, Jr., will be his brother's best man and the ushers will be Messrs. Frank Blemer, Richard F. Windich, and Richard Quaintance of this city; Lyall Stuart of St. Louis; T. K. Seiberling of Akron, Ohio. Miss Quaintance is a graduate of Miss Porter's School of Farmington, Conn., and is an active member of the Junior League."

It appears that Schell's famous advice is being taken literally.

HARRIS B. MACINTYRE, *Secretary*,  
2 Commonwealth Ave., Boston, Mass.

'23 Well, fellows, time is certainly rushing past us. A few of us are now eminent engineers while the majority are still struggling with the lower rungs of the proverbial ladder. Some of us have already given up the engineering field and turned to more lucrative occupations. However, we are all still members of the same alumni body and we like to know what has happened to the rest of the gang. The only means we have of keeping in touch with each other is through the class notes columns of *The Review*, and it takes the combined efforts of the whole crowd to get up a really decent set of class notes. Just grease up the old pen and write a few words to your Course Secretary or the Gensec, *now*, before it slips your mind again. If one-half of the fellows who intend to write will show that they actually mean business within the next month, we will guarantee a set of notes that will take your breath away.

ROBERT E. HENDRIE, *Secretary*,  
12 Newton St., Cambridge, Mass.

H. L. BOND, *Assistant Secretary*,  
40 Central St., Boston, Mass.

#### COURSE I

We haven't heard a word directly from Jim Robbins since he left this part of the world to settle, with General Pershing, the dispute between Peru and Chile, but we live in daily expectancy. From Professor Robbins we learned that Jim reached Chile O. K. the latter part of August and then spent some time in preparation for the actual boundary survey which is now well under way. Jim seems to be having the time of his life, but expects to leave for home in February. The commission has even gone so far as to give him a horse to ride around on. When Jim gets back here he will probably be frequently seen adorning our bridge paths. According to the newspapers it is not an easy matter to reconcile the Chilean and Peruvian governments to each other. We hope Jim's boundary line won't start another war.

Al Parker has carried his duffel bag across the gang plank of the S.S. *Explorer* of the U. S. Coast and Geodetic Survey for the last time. A letter from him dated August 22, and postmarked Dayton, Ohio, reveals the fact that Al was picking up the structural steel business with the Building Products Company of Dayton. In his letter Al intimated that he might soon be back in Boston and he has since made good that threat. He is now working for the Travelers Insurance Company, but we don't know just what his job is.

We had a visit from Bert McKittrick the other day. Mac is still working with his father in Lowell. He mentioned leaving the following Sunday for a business trip through the middle west and thought he might even get as far as Milwaukee where he worked until last spring. Mac forgot one thing, however, and that was to state the nature of his business. (I am breaking this just as gently as I can because I know it will be a great shock to all his friends.) Well, the next we heard from Mac was the following announcement: "Mrs.

Robert Meister announces the marriage of her daughter Harriet Caroline to Mr. Bertrand A. McKittrick on Saturday, November 14, 1925, Milwaukee, Wisconsin."—Well, old man, we offer you our heartiest congratulations and best wishes for the future. We are taking it for granted that Mac intends to bring his bride back to Lowell and continue his business associations there.

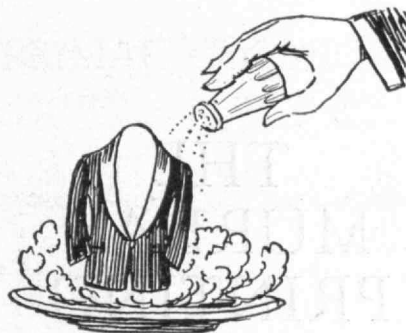
In contrast to the above paragraph Charlie Wenz claims that marriage is too much like a ball and chain on his ankle, and consequently he is still single. We hate to accuse Charlie of subterfuge, but when a man begins to talk like that, beware. Be sure to send us an announcement, Charlie! Charlie is and has been for the past two years working for the Adirondack Power and Light Company at Schenectady. He is outside most of the time and likes the job as well as it is possible to like any kind of work.

In answer to a letter sent to Bobby Burns at Columbus, Georgia, a short time ago, I received a telegram from Clearwater, Florida. The telegram, although necessarily brief, intimates that Bobby has gone into business and he says he wants a few good civil engineers to help him. Is it possible that Bobby is helping to hook suckers by surveying lots for them? We will have to wait for a little more information from the South before we can answer. In the meantime, if you want to get in touch with Bobby write care of Moore and Burns, Clearwater, Florida.

We don't know what has happened to Ed Pomykala. We have been searching the obituaries but haven't seen his name mentioned yet. Say, Pomy, if you don't want your whereabouts made public we will swear to secrecy as far as the cops are concerned but let us hear from you.

This applies not only to Pomy, who was just picked out as an example, but to all you other birds who like to read the class notes, but never help to support them. Ten minutes every two months from each one of you will keep our columns so well supplied with news that we would have to double the size of *The Review* to hold it all. Just fill up the old pen and string us a few lines and you will have the undying gratitude of every other reader of these columns.

ROBERT E. HENDRIE, *Acting Secretary*,  
12 Newton St., Cambridge, Mass.



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1923 Continued

## COURSE II

It seems as though all you birds must have left your fountain pens back at Tech and haven't accumulated stenographers yet. What's the matter? Can't you afford five minutes of your time to send us a few words about yourself or any other '23 men about whom you may know? I just got a letter from Al Perkins — two pages, too. Here is his first paragraph. Just read it, then think it over and act on it. "I have just received my latest copy of *The Review* and am disappointed at the dearth of news from former Course II, Twenty-Threeites. I don't feel that I'm much good as a collector of information myself, but it does seem as though the fellows who turn to the News from the Classes column right off the bat ought to chip in with some info for it once in a while. Of course, it's very easy to forget to write, and that's probably the cause of the drought."

Al is engaged again and is still in the insurance game. His headquarters are in Boston but he spends quite a bit of time traveling around New England for the Underwriters' Bureau of New England. Al says he saw Roscoe Sherbrook in Bridgeport a short time ago and that he was looking well and prosperous.

Howard Keppel, Jr., who has been with the Defender Manufacturing Company for some time, is now going to represent his firm in New England and New York. — George A. Johnson is still sticking with the insurance business. He is with the Travelers Insurance Company in Boston and seems to be getting up in the world. — As for myself, me'n the enameling business are still partners. Sick of it? Sure. Always did hate work, but what good does that do?

If Bill Leslie sees these notes I hope he will feel ashamed of himself and answer that letter I wrote him last year.

HAROLD B. GRAY, *Secretary*,  
Vitreous Enameling Co., Cleveland, Ohio.

## COURSE V

You chemists sure do seem to be shy about forwarding information about yourselves.

Mal Johnson, author of the 1921 Tech Show, wrote me recently from Chiangking, China. It seems he is engaged in the field work of the Standard Oil Company in a particular section that is experiencing

no little unrest, for he says, "The Britishers have been beaten in the streets of the native city and all but murdered, and the Consul has been driven from the Consulate. At present, one of the largest of the upper Yangtze gunboats is in port, with guns trained on the city, and conditions are growing quieter."

Art Fischer, one of Tech's most celebrated pianists, writes that he is doing research work in colloid chemistry with the Guggenheim Brothers over New York way. — Helen Miller is a full fledged teacher now, specializing in Math and Science. — Peg Marvin continues to hold faith as assistant to Professor Hamilton of steel analysis fame. — Charlie Moore of the Watch City and recently an acquirer of the much coveted Ph.D. from Zurich is at present deeply engaged in research work. — Nothing harmful has happened to your Course Secretary, other than his becoming a benedict this past June.

And now I want to implore my Course V mates again to send me those notes which they so solemnly promised some short time ago.

EDWARD J. DANEHY, *Secretary*,  
37 Yerxa Road, Cambridge, Mass.

## COURSE VI

We have an interesting letter from A. J. Tigges, whom we remember as the industrious student and night class instructor back at Tech. Tigges is with Jackson and Moreland, consulting engineers, in Boston, and he says: "I might point out that I am still among the happy bachelors and have no immediate prospects of being otherwise. As a graduate electrical engineer I have turned out to be somewhat useful in the mechanical engineering field as well as making economic studies on steam plants and appraisals of intangible properties. This type of engineering doesn't require the usage of the j's. However, their solutions are anything but routine. This last year I spent about four months in Akron, Ohio, at the Goodyear plant and found some of our classmates, including Jimmie Connor, of Course X, out there. Jimmie is still among the bachelors. After the first of next year, I expect to take a construction job out west."

Down here in Philly we are all working hard to make electricity the servant of all trades. We have a little fun now and then with the local A. I. E. E. meetings, and the Tech Club dinners and talks. Wink Quarles, '24, and Bob Johnson, '24, have come to this city, signing up with the Ingersoll-Rand Company.

Our old friend, Chet Taylor, well known in Institute Committee parleys, has found new haunts in the balmy south. He writes from Birmingham, Alabama: "The Reliance Electric and Engineering Company keeps me on the payroll as manager of the Birmingham office. The main object of my present existence is to sell motors, lots of them, and we are doing it. Funny thing — I never heard of the best D. C. motor when I was studying electrical engineering at Tech. I rarely meet any one down here from 'Boston Tech.' In a gathering a short time ago I gave my alma mater as M. I. T., and a young lady remarked, 'I thought you were a college man.'"

We'll leave it to you, Chet, to plant the Tech spirit in Birmingham. It would be mighty fine if others of our tribe who haven't been mentioned in this column would volunteer a few words, telling us how their external characteristics are affected by time and how much better off they are than some other classmates they know.

A. J. PYLE, *Secretary*,  
Univ. of Pennsylvania, Philadelphia, Pa.

## COURSE VI-A

Ran into Professor Timbie at a meeting of the Boston Section of the A. I. E. E. the other night and expected to get the lowdown on some of the various members of the Course from him. Instead I heard a few new stories plus the information that the *VI-A News* is a defunct member of society, which we no doubt have all realized from its lack of appearance during the past few months. Saw several members of the Course at the meeting — Spencer, Carper and Reeves being among those present. Charlie Burke and P. B. Alger usually grace such gatherings, but failed me this time. I understand that P. B. has left the Boston Edison, but for what other position I do not know. Freddy Travers is bearing up bravely under the strain of married life — but his wife still keeps him at home nights — for thus his absence from the gathering would testify.

Paul Wilkins must have a lady love out Waverly way for I met him on a Waverly bound car one night, not so long ago, and he was dressed for a killing. Wilkie, who is with the A. T. and T. Company in New York, is quite positive that machine switching is the coming thing in the telephone art. He reported that Bob Henderson was at that time

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1923 Continued

located in Buffalo where he was making toll transmission tests for the A. T. and T. Company. Bob must have a good job if he is on the swindle-sheet all the time that he's away from New York City.

J. H. THOMPSON, *Secretary*,  
1008 Beacon St., Brookline, Mass.

'24

If you members of 1924 have taken particular care to notice it, you will see that we haven't missed an opportunity since we first entered the Alumni Association, over a year ago now, to get some notes put into The Review for every issue. We are sorry to say that many of you have missed every opportunity to get something of yours in. In the last two months we have been forced to put in less than we wanted to because more and more of you were missing those opportunities. We don't like it, don't believe you like it and wonder why you don't do something about it. Outside of rumors and clippings sent to the Gensec by The Review, a record of seven direct proffers of information were received by Course Secretaries for this month. Record isn't the proper word to use in this case. Number might be a better one. Seven out of fifteen courses, 600 graduates and 1100 total membership! Awful! And awfully discouraging to the Course Secs. Something ought to be done about it, something must be done about it. We can't buy your information, we aren't rich enough to. We have been repeatedly after each one of you to write. We can't do much more and there is so much that you can do that inasmuch as we are a democratic body, it's about time that you did it.

We have got to have your support. Is it worth a letter from you to get a lot of information about your classmates? It seems to us that it would be worth at least a letter of about a page in length each month to get four or five printed pages. Is it worth \$3.00 a year to get The Review and to put our Class at the top of the membership list where we were all last year? If it is, then send in your money and keep sending it in each year. Is it worth \$8.80 a year to be able to show our appreciation to Technology? If it is, then why not pay that sum every year? Is it worth a little personal or financial effort to keep our Class on top of the pile? It doesn't take much of your time or money but it would make a colossal total if we could get 600 men to do all these things. Without your aid the number drops to 599 and without the aid of everyone like you it drops one more. The lack of that aid has caused our endowment to fall off, has caused our Class to fall to eighth place in the membership statistics of the Alumni Association and has caused our notes to become less plentiful. A letter a month keeps our notes alive and a dollar when needed keeps our Class alive.

In looking over the notes this month it seems to the Gensec that they are particularly lacking in respect to engagements and marriages. He is tempted to wonder whether the Class as a whole is letting any other opportunities get away from it or whether this is just a lull before a storm of such happenings comes upon us. Are we waiting to see how our braver fellows came out in their respective cases, or is it just that since many have not reported anything, these items may be among the happenings we haven't heard about? From which I imagine I shall be accused of trying to promote business for the clergy. I am. I have found out that the married man is a much better contributor to his Course Secretary. He seems to realize his responsibilities much more than a care-free single one does. Hence, I am for anything that produces notes.

Since like the course news the clippings which I have on hand are rather short this month, they will be included here instead of under separate course heads. The engagement of Ronald O. Gubleman of West Orange to Miss Evelyn Sargent, also of West Orange, has been announced. — Horace Ingraham was recently married to Miss Mary Southam Smith of Syracuse.

The following men who entered the N. E. T. and T. Company have been assigned thus: G. C. Joyce is with the General Traffic Department in Worcester. E. E. Russell and J. H. Thompson are located in the Inventory and Appraisal Department. F. A. Barrett is in the Department of the Toll Plans Engineer. P. C. Maynard is with the Engineer of Fundamental Plans. E. E. Cronin is in the office of the General Commercial Supervisor. F. H. Travers is with the Supervisor of Toll Plant.

Don Murdock is still with the General Petroleum Corporation in California and his latest address is Box 418, Maricopa, Calif. Since he and Warren went with this company a year ago they have been almost continually in the field working as roustabouts, well pullers and rotary helpers gaining valuable experience thereby. George H. Holmes, Jr., and A. E. Lindsey felt that, having secured a lot of good experience with the Utah Apex Company at Bingham, Utah, they should move

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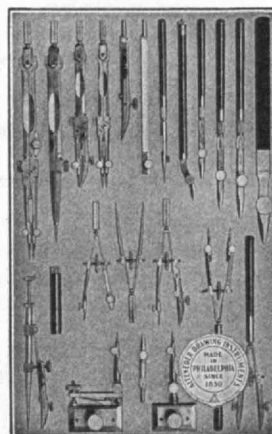
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## 1924 Continued

on to new fields. Their first move was to the Silver King Coalition mines in Park City, Utah, but finding conditions unsatisfactory there they continued along to Midvale, Utah, where they secured research work along metallurgical lines with the U. S. Smelting Company. They recently had a visit from M. Quealey who, since leaving Technology, has acquired a wife. Mrs. Quealey accompanied him on his trip to Utah.

HAROLD G. DONOVAN, *General Secretary*,  
80 Farmington Ave., Hartford, Conn.

## COURSE I

Your Course Secretary has reason to give thanks. He was about to pass up this issue of The Review because of lack of material when he received an eleventh hour letter from Ray Giles. It is a complete progress report dating from June, 1924, and will help admirably to fill out the space which Course I is supposed to consume. Gentlemen, Mr. Giles:

"Your card arrived the other day, thanks a lot for even such a short epistle. You know, I had planned to write you a line some time ago, for said I to myself it must be a hell of a job trying to get together dope for the *Alumnus* or *The Review*, when nothing is coming in. But again things interrupted and my good intentions were forgotten. But I am at least going to write you now, even though there may not be any news herein. Since I have been silent so long it may be well to start at June, 1924.

"Several jobs seemed worth while looking into in June and I interviewed several different men — finally deciding on a year at the Polytechnic — that gave me all summer to do what I wished. Now, I was in luck, as my aunt decided to go to England and she took me along. I had a great time: two weeks in London, one in Paris. I flew from Paris to London, and the rest of the summer I visited relatives in S. W. England. I had a fine vacation. In September I started in at Poly teaching hydraulics and assisting in waterpower drafting room work, hydraulic lab, and so forth. I found that Poly is a very fine school for its size and it has a very good Civil course. I had a hard job deciding whether to go back or not, but finally decided I would as Professor Hammond was going to give me more work and less correcting of papers. I teach the Senior electrical engineering, Junior mechanical engineering and fifth year chemical engineering hydraulics; I have a section in hydraulic lab and in stream measurements which is more detailed than we did at Summer Camp. So, all in all, I'm busy; like the work; but won't stay indefinitely.

"This past summer I worked with the Turner Construction Company for three months on a construction job in Flushing, L. I. I learned quite a lot on the job so I think I had a profitable summer in that respect.

"Just received word from Bill Correale that Florida is not so hot. Bill wishes he were back in New York again. What has become of Ed Jagger? Is he President of Stone and Webster as yet? I saw Moose Williams at the Wesleyan-Columbia game. Of any one else I haven't a single word.

"Well, I think I've said too much about myself already, and since there is no news about any one else I'll sign off. I'm glad Ginsy likes being a rodman — he used to be good at that. I know, Gil being near Gin in the roll book at Camp."

Your Secretary considers the above letter a real scoop and wishes he might get more like it. It was prompted by one of several postcards which he frantically sent out to rope in some news. Here's hoping the others will bear fruit too.

JOHN D. FITCH, *Secretary*,  
c/o Charles T. Main, 200 Devonshire St., Boston, Mass.

## COURSE VI

My supply of notes is rather small this month, inasmuch as most of the Course VI members think I am writing to them for the fun of it and not for the replies. However, this is what I have discovered since the last issue of The Review.

Leland Franke is back at the Institute directing the work of the National Research Council on Industrial Illumination, and Jack Parsons is working with him. I saw Franke last Thursday at the Illuminating Engineering Society's meeting in New York, and he seemed very enthusiastic about his work. — Raymond Johnson is now a cadet with the Public Service Corporation of New Jersey. I caught a glimpse of him on the street one day, but I didn't have the time to stop and find out what he has been doing. — Oscar Keefe of VI-A is doing radio research for the Bell Telephone Laboratories in New York.

I have a nice letter from Henry Zieger which I am quoting as follows: "As I told you in a previous letter, my livelihood is derived from kidding the Alleghany Division of the National Lamp Works into the belief that it is worth while for them to have me around as a sales representative. The work is practically all concerned with salesmanship, pushing across whatever idea seems to be at hand for the moment, with an occasional infinitesimal amount of engineering thrown in as a palliative to stifled engineering hopes. I am getting a gradual and casual acquaintanceship and introduction to big business behind the scenes. Very interesting, I assure you, and all of it necessitates a thorough revision of copy book maxims and *American Magazine* preachments.

"My personal story has been built around the above work. I am living at the Technology Club of New York and enjoy very much the associations. In addition, I am studying law evenings at New York University. It demands quite a bit of work, but on the other hand furnishes a satisfactory answer to that question of the song 'What'll I Do' on long winter evenings."

HELEN W. HARDY, *Secretary*,  
80 Park Place, Newark, N. J.

## COURSE X

Hank MacMillan is in New York for six weeks for The Proctor and Gamble Company. Hank's job is to visit laundries and explain new ways that have been found for washing clothes. He also has to talk before laundrymen clubs. We got together one Sunday with Felix Stapleton, Gubby Holt, Frank Hecht, Francis Rosseau, Perra, Herkmans, and Swift and had quite a talk.

Sam Schneider sent in a very interesting letter of his past. After finishing up at the 'Stute in June, 1924, he went to work for the National Carbon Company as production foreman. About February he went to Chicago to work as an analytic chemist. He ran across McCready out there. In Indiana he met quite a few Technology men. His next job was with Arthur D. Little, Inc., where he found Bill Couch and Elmer Derby bathing in oil. Sam's position with A. D. Little was a temporary one to do some work on activated carbons. At the completion of the problem he went to work with a textile concern in Passaic where he may be found now. He is doing research in silk (artificial).

I am with Johns-Manville, Inc., putting down some real industrial flooring. These floors can be made waterproof, acid resisting or spark-proof. But they have nothing on you fellows who don't send in notes, for you are proof against everything. However, a Happy New Year.

WILLIAM B. COLEMAN, *Secretary*,  
40 Morningside Ave., New York, N. Y.

## COURSE XV

Our prolonged and agonizing appeal for news from you fellows has finally brought results in the form of a lone letter, which was seized and avidly devoured by your starving Secretary. Winkie Quarles probably doesn't realize what a Good Samaritan he is — but, anyway, we quote from his letter, which is written from the Commercial Trust Building, Philadelphia, where he is with the Ingersoll-Rand Company. Wink says, "I have been with this company ever since I left Ye Good Olde Tech and haven't any kicks to register. None that amount to much, anyway, for they don't listen to them. I am doing a little bit of everything, but mostly selling machinery, such as air compressors, rock drills, pumps, pneumatic tools and oil engines. The latter is my specialty, however, and the one with which I feel most at home. You see, I spent a little over a year building the darn things and operating them. I came down to this office on September 1 and have run into several of the boys since I got here. Bill MacCallum is doing prosperously with the bankers, Parrish and Company. Ted Taylor is selling tractors with Bateman Brothers, and while I haven't seen Charlie Phelps or Jim Pierce, I understand that they are selling radio supplies with the Splittorf people. I am going to a meeting of the Technology Club at the Engineers Club tonight. Best regards to all the gang."

Gardner MacPherson has deserted these parts and has gone to join the ever-increasing number of our bunch who are located in New York. He is now with W. A. Harriman and Company, investment bankers. — Tom Fitzgerald is teaching and coaching athletics at the Stoughton High School, Stoughton Mass. — Monk Benning and Dick Bundy are with the White Motor Company in Cleveland. — Jack Parsons' wanderings have landed him in Havana, Cuba, with the Cuban Telephone Company, and given him a chance to wear the ten-gallon straw every day. — Bill Giddon appeared the other day and informed

1924 Continued

us that he had been traveling around the country in the interests of the Sanborn Company, the medical instrument makers of Cambridge.

We have also at hand a lengthy account of Bill Rosenwald's ramblings in Europe. As we mentioned before, Bill was in London, from which locality he went to Geneva, with the idea of taking some lecture courses and studying up about the League of Nations. He formed a connection with Professor Hudson, of Harvard, who has organized in Geneva what he terms the Geneva Institute of International Relations. Bill has been the office boy of this organization and has been "selling" the League to Americans.

JOHN O. HOLDEN, *Secretary*,  
110 Monroe Rd., Quincy, Mass.

**'25** Is it not an anticlimax, dear reader, after devouring the magnificent and lengthy articles on the preceding pages of The Review to find that the last words must come from the youngest class? In a way it seems unfair to require the most inexperienced to utter the peroration month after month. But on second thought comes the devastating reminder that probably no one reads these notes after all. And then the consoling hunch that 1925 may casually observe them — perhaps enjoy them occasionally, and maybe miss them when they fail to appear!

Foremost in the march of events was a dinner at the Tech Club in New York recently, attended by some twenty or more young engineers just out of the shell. To this estimable act of organization and energy we owe our thanks to Sam Spiker and Gus Hall. Through their indefatigable efforts there was weeded out of the third-rate boarding houses on the East Side and the West Side those who but recently reposed luxuriously on parental allowances and never realized how fortunate they were. Gathered in the dim halls (and shall we say structurally unsafe halls) of the Tech Club, this earnest conclave broke bread, mused over old times, talked scandalously of absent ones, and lastly compared salaries, or rather the absence of them. This was possible because apparently no one had reached that desired zenith when modesty forbids mentioning the amount. Sam was, of course, the toastmaster and the roastmaster. He fairly shimmered in his immaculate hard-boiled shirt and his torture-dealing wing-top. He wasn't well dressed. He was faultlessly groomed. And then Gus Hall with his quiet and reassuring manners was the same polished gentleman of undergraduate fame.

In contrast to this pair we have Benny Billman who quite evidently embarrassed many of those present by relating "oddments and remainders" of New York night life, and Don Henderson who gave himself hopelessly away by staring with yearning eyes at the hundreds of beer steins that now are used for decorative purposes only. Bill Northrup being at the other end of the table might possibly have escaped unobserved had he not evidenced all evening that beer stein stare that comes from frequently gazing into frothy depths.

Bob Hochstetler told amusingly of what is probably the most difficult engineering problem any of us have had to face since leaving school, namely, how to find your way out of the New York subway system. In his opinion Jean Val Jean had nothing on him. Meanwhile, the more gullible of the party listened with mouths agape to the constant flow of fables from those two young geniuses Connie Enright and Henry Sachs. Presty Preston assumed the only real hardship of the evening by reaming the head tax from the brethren despite frantic pleas of monthly insolvency. There were some ten or fifteen others present but so strict was their decorum, comparatively speaking, that all we can find to say of them would be too good to make it worth while. Among them were Drew, Gagliardi, Doucette, Hickey, Bacon, Samuelson, Arnold, Ward, Tryon, and others.

From Stafford Springs we received an interesting letter from Mitch Mitchell in which he tells us about everything except the influential position he must be filling. So we assume he is either handling finances for the Town Council or checking budgets for the High School Athletic Association. Whatever his station henceforth we will trust him implicitly with the lucre, for he has apparently managed the impossible and, after all accounts were cleared, has turned over to Daddy

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- No. 1009. A first class experienced textile chemist is wanted by a large eastern technical school to teach and to do research work in textiles. Candidates should be abreast of latest developments in textile industries and should have teaching ability, with or without teaching experience.
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- No. 2003. Mechanical engineering graduate of 1912 who has had more than ten years' experience as an efficiency worker and purchasing engineer in paper manufacturing is seeking an executive position with some company engaged in the production of wall paper or coated paper. Could act as purchasing agent, sales engineer or industrial engineer. Excellent references.

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Ford \$317.59 to the credit of the Class. He adds — and we join our blush with his — that the final count on the Insurance Drive was 350 policies. In other words, the loyalty of fifty per cent of the class to the Alma Mater wasn't worth \$10 per year, less than a dollar a month, or in round figures approximately three cents a day which is exactly the price we pay for the daily newspaper.

From Bob Huthsteiner on the wolf-infested plains of Texas we hear encouraging reports to the effect of good job, learning lots, happy, contented, and thriving, which we understand implies engrossing

friendships among the Texas beauties also. Bob apparently hesitated before writing because he did not know with what degree of formality or informality to address the Secretary. Said Secretary can now hold his head a little higher. He had thought that everyone looked down upon him in his humble position. But for the information of equally modest correspondents address him Chick or Muhl, or just Poor Unfortunate Sec.

CHARLES R. MUHLENBERG, *Secretary*,  
22 East 38th Street, New York, N. Y.

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CAMBRIDGE, MASSACHUSETTS



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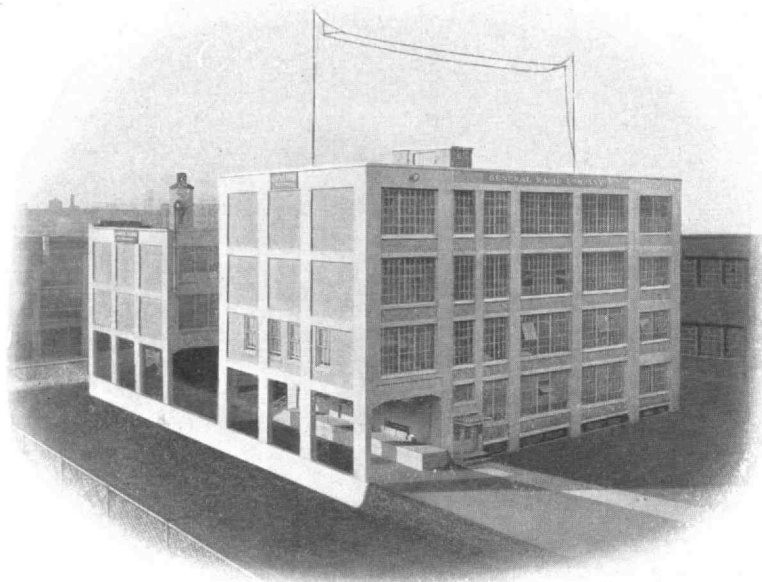
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